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Textile World

FEBRUARY, 1956

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IMPROVES LOOM OPERATION

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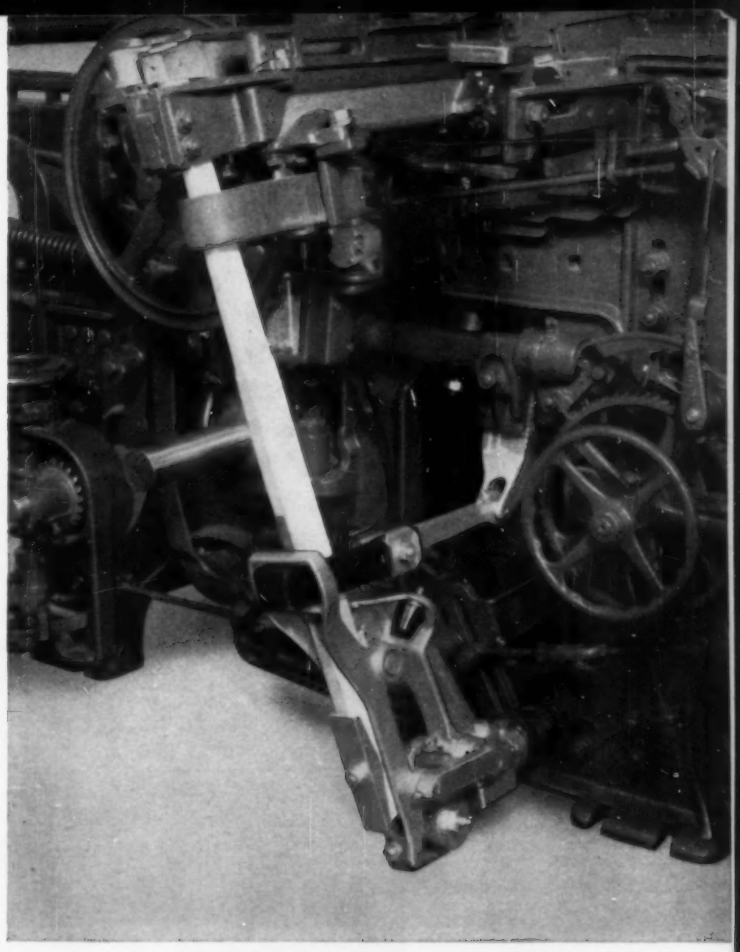

Extensive mill trials prove the Draper Linkage Parallel Assembly results in a more uniform, controlled picking action. This parallel assembly eliminates "jump" and "play" in the picker stick . . . improves overall loom operation and reduces wear on pick motion and parallel parts.

A fixed power block position allows more uniform power settings to be maintained. Clamp-fit of the assembly on the rocker shaft permits easy, fast application. *Picker sticks may be replaced without altering Parallel settings.*

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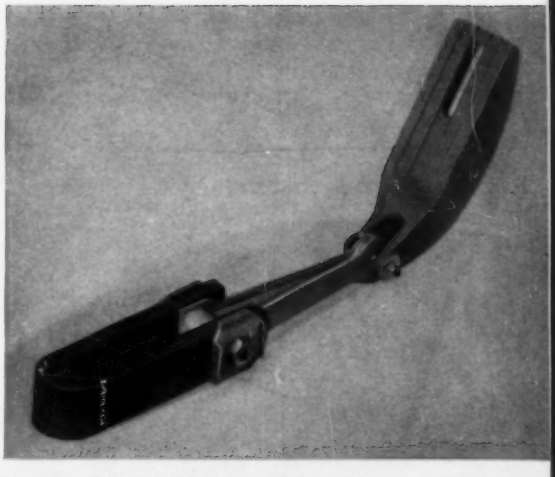

New aluminum pick arm and lug strap connection is recommended for above installation.

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From casual wear to knitted suits, Circular Jacquard Knitting Machines set the standard for quality, versatility and production.

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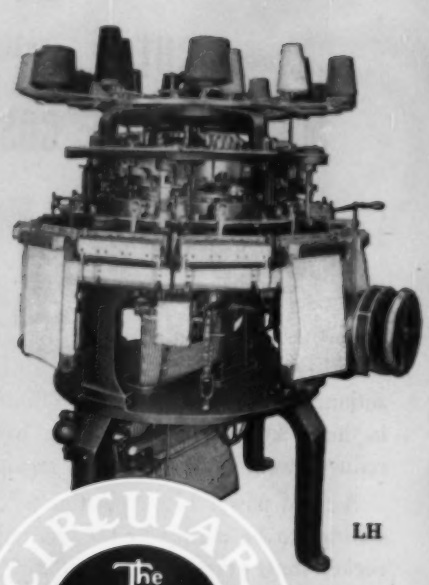
TJI-12



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Textile World

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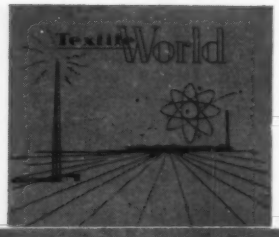


Developments To Watch

NEW DROP-LEAF COTTON . . . which Russia claims to have developed, is said to drop its leaves five to seven days before bolls open. Reports are that the cotton was developed through cross-breeding and is a fine-fiber cotton. Leaves dropping is an aid to mechanical harvesting.

TUFTED CARPETING . . . will force further adaptations in dyeing methods. Last year's advance was open-width treatment in pressure vessels. This year, look for pad dyeing to take over in some shade ranges at speeds of 60 to 80 yds. per min.

IMPORT QUOTAS . . . will be a big battle in Congress this year. Before Congress met, 62 senators and 22 governors from textile states, backed by powerful trade associations and labor unions, signed a quota bill designed to protect American industry from excessive foreign imports, especially Japanese. The Administration opposes it.

HIGH-BULK YARNS . . . are in for a scramble. Payoff is wider uses. One of the latest yarns is a combination of heavy-denier, high-shrinkage fibers with fine-denier fibers. Made from fibers of various shrinkages, lengths of staple, and twists, the yarn has a soft hand, good shape retention, and high resilience.

NYLON YARN ON BEAMS? . . . Why not? Several viscose and acetate producers are now supplying yarns directly to tricot and raschel knitters on beams. It saves the knitter the trouble and expense of warping and gives better quality. Why not nylon too?

UNIVERSAL'S UNIFIL . . . will get the acid test this year. Ponemah Mills and Amerotron Corp. each has bought 500 Unifil units to wind filling from cones right at the looms. First shown in Atlantic City in 1950 and mill-tested since then, Unifil is now facing its first large-scale, fully commercial trials.

"DO-IT-YOURSELF" DENIMS . . . may help recapture some of the shrinking denim market reported in these columns last month. The Denim Council recently put on a fashion show before 6,000 "do-it-yourself" fans in Chicago to demonstrate how glamorous-yet-practical costumes can be worn for home chores. Well, it's a nice try, anyway.

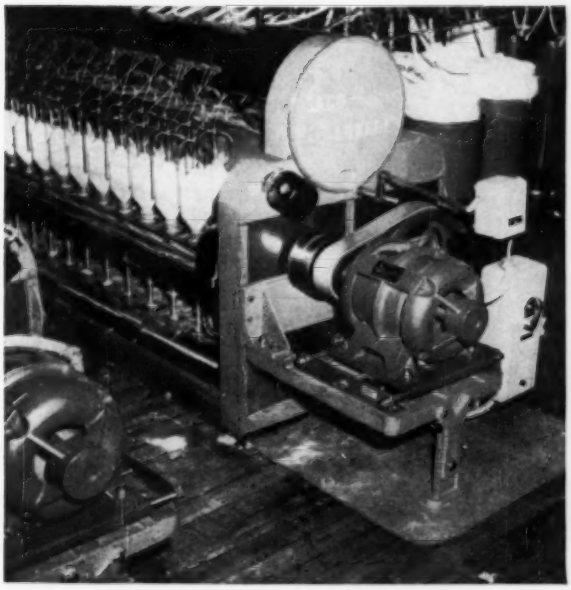
3-D FABRICS . . . are still trying to make the grade. United States Rubber Co. is weaving a flat fabric called Trilok that becomes permanently three-dimensional when dipped into boiling water. Chicopee Mills is making a similar woven-plastic fabric for automobile upholstery called Lum-puf. Goodyear Tire & Rubber Co. is offering a 3-D wall covering known as Cohyde. Somebody ought to tell all textile publicity departments that "3-D" is a dead duck so far as sales appeal goes.

STRETCH STOCKINGS . . . will comprise about 25% of the total full-fashioned hosiery volume in 1956, says A. Phillip Goldsmith, president, Julius Kayser & Co. Sales of well-advertised quality-brand-name women's hosiery may increase 15 to 20% in 1956, he says.

NYLON BACK GRAYS . . . for roller printing will be used more and more both here and abroad. Cost of the nylon is initially higher per yard than cotton, but longer service life of the nylon makes it more economical. In operation, the nylon blanket is washed, dried, and reused over and over.

CONTINUED ON PAGE 6

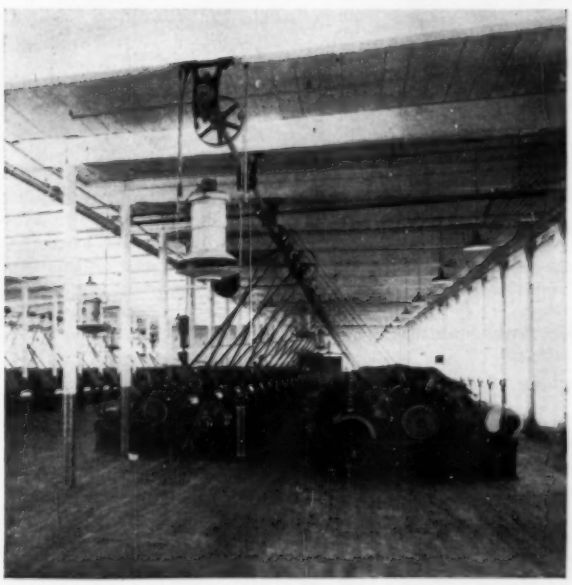
TEXTILE WORLD. Published monthly, with an additional issue in September, by McGraw-Hill Publishing Co., Inc. Executive, Advertising, and Subscription Offices: 330 W. 42nd Street, New York 36, N. Y. Editorial Office: 201 E. Coffee Street, Greenville, S. C. Publication Office, 99-129 North B'way, Albany 1, N. Y. Second-class mail privileges authorized at Albany, N. Y. **For subscriptions,** write to: TEXTILE WORLD Subscription Service, 330 West 42nd Street, New York 36, N. Y. **State company and position. Subscriptions are solicited only from executives, engineers, and technicians in textile manufacturing or finishing plants.** Single copies 50¢. United States and Possessions and Canada, $2 for 1 yr.; $3 for 2 yrs.; and $4 for 3 yrs. Other Western Hemisphere and the Philippines, $10 for 1 yr.; $16 for 2 yrs.; and $20 for 3 yrs. Other Countries, $15 for 1 yr.; $25 for 2 yrs.; and $30 for 3 yrs. Printed in USA. Annual index in Jan. issue.



Smooth Start-up Eliminates Broken Ends, Increases Production of Roving Frames!

This short center drive with its Tannate Flat Leather Belt, automatic spring-tension motor base and Bethlehem slip ring starter not only starts the frame so smoothly that it has eliminated broken ends, but also maintains constant speeds increasing production. This is one of 24 drives which were designed and engineered by J. E. Rhoads and Sons for a prominent New England textile mill. Several of them have been running for more than five years and have proved their ability to produce top quality yarn economically. *Rhoads Engineering Service* . . . You too, can take advantage of Rhoads Engineering Service when you are planning new drives or changing old ones. Rhoads Engineers are specialists in the field of mechanical power transmission.

planning new drives or maintaining old ones?



Rhoads Belts driving cards efficiently, economically.

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Whether your machines are driven from individual motors or from a line shaft such as the card room shown on the left, Rhoads belting can often help you obtain more production and lower your belting costs.

As tanners, curriers and manufacturers of such well-known brands as Tannate, Gripotan, Gilt Edge and Powerhold, you can be sure that Rhoads has the belting and the "know how" to economically solve almost every drive condition in your mill.

Remember, Rhoads belting costs less to run and maintain.

Why not take advantage of the experience Rhoads has had in the production and application of flat leather belting? It is a service offered to you without charge.

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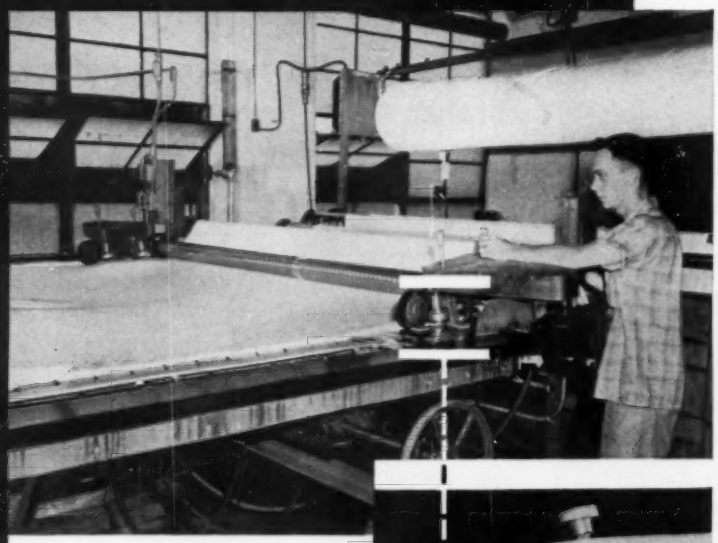
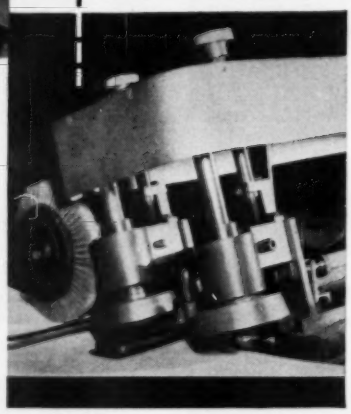
INDUSTRIAL LEATHERS





How KINGSBORO MILLS

increased production 100%
improved quality
reduced costs with three
ASKANIA
CLOTH GUIDE CONTROLS

Increased output from 20-40 yards per minute... a neater more even job than could ever be obtained by custom processing... the release of *one man per frame* for other, more productive work... drastically curtailed maintenance expense—all are the specific results made possible by three automatic ASKANIA Cloth Guide Controls applied to Kingsboro Mills tenter frames.

HOW IT WORKS

Accuracy and dependability are extremely important. ASKANIA's twin-jet positioners automatically guide the pins or clips so that they engage the cloth just inside the selvage edge as it enters the tenter frame. ASKANIA'S Cloth Guide Control is non-contact. A *breath of air* is the only contact between the control and the web. It has proven to be the most accurate of all cloth guide controls.

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DEVELOPMENTS TO WATCH

AMMUNITION CLOTH . . . probably will be made of rayon-and-acrylic fiber instead of silk if the material passes tests now being conducted at the Indiana Arsenal, Charleston, Ind. Contracts for 469,100 yds. to be used experimentally have been awarded to Burlington Industries, Inc., and Milliken Woolen Mills.

NEW RUSSIAN FIBER . . . said to look and feel like wool, contains 20% protein from whale meat and fish refuse. Claims include crease resistance and colorfastness superior to wool-viscose blends.

OILING AND CLEANING . . . cycles may be measured by hours with counters that can be attached to almost any frame. Veeder-Root, Inc., is experimenting with this new use for counters, which may simplify mill operations and reduce costs in the future.

FILLING BANDS . . . and differences in dye batches invisible to the eye may soon be detected with ultraviolet light. Black Light Eastern Corp. is exploring this use of ultraviolet light.

COTTON-FABRIC LABELS . . . that identify fiber content will become mandatory if the bill introduced by Rep. Frank Smith (D. Miss.) becomes law. Rep. Smith wants cotton protected against "cheap synthetic blends being sold as all-cotton fabrics."

RUSSIAN WINDER . . . offered for export is said to wind filling automatically at a spindle speed from 3,200 to 4,300 rpm.

VINYL FILM . . . is cutting into more textile markets. Latest inroads include covers for hay and cotton bales and shades for controlling the growth of flowers and shrubs. It is estimated that by 1960 industrial application may consume 50% of total vinyl film and sheeting production.

No other drive does all these jobs like

Link-Belt SILENT CHAIN

YES, if you need a drive like any one of these six, you're money ahead with SILENT CHAIN

COMBINING the flexibility and quietness of a belt with the positive action and durability of a gear — Link-Belt Silent Chain offers unmatched advantages for a wide range of drives. Check these reasons why:

- Lower cost—often lower in first cost, always lower in ultimate cost.
- Longer life — trouble-free performance for 25 or 30 years is common.
- No dismantling machine or removing sheaves for repairs.
- Better than 98% efficiency.
- Maintained ratio assures full productive capacity.
- Slipless action assures a better product.
- Easy to install.
- Safe to employees — operates in oil-retaining casing.

New 88-page Book 2425 gives complete data on silent chain. Ask a Link-Belt engineer or distributor for your copy today.

LINK-BELT

13,502

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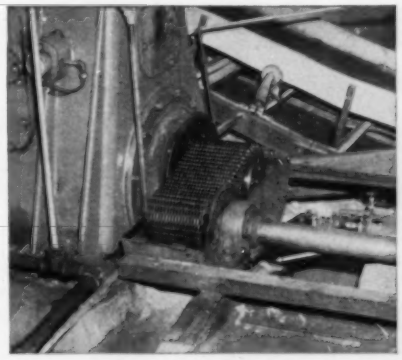
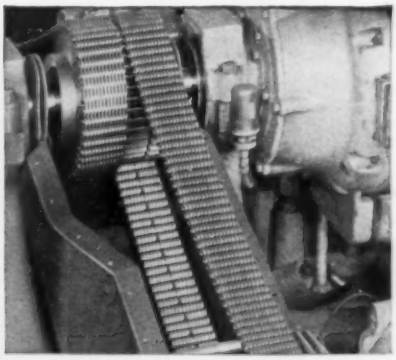
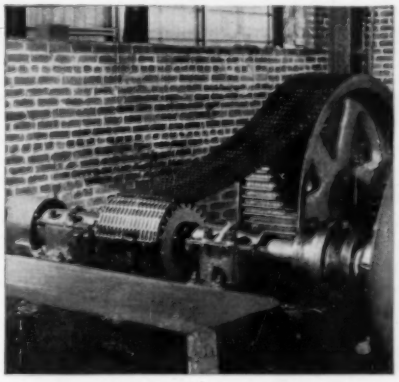
LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.



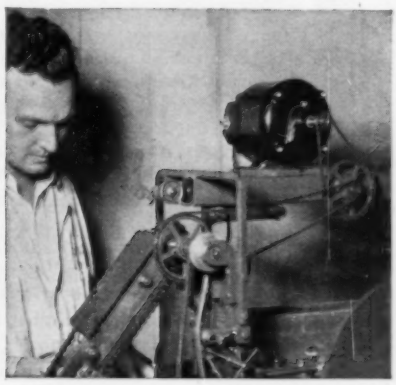
1 **Production increased 33%** when speed of this peeler lathe was stepped up by installing two silent chain drives. Neither engine nor lathe had to be moved.



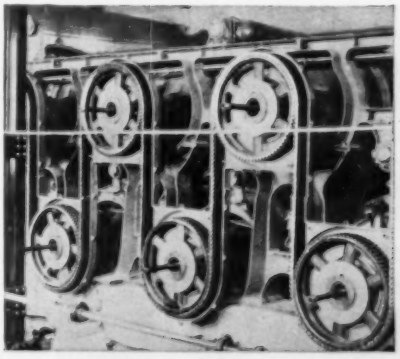
2 **Constant, high speeds** were assured by equipping each of 48 automotive test stands with two Link-Belt Silverstreak Silent Chain Drives.



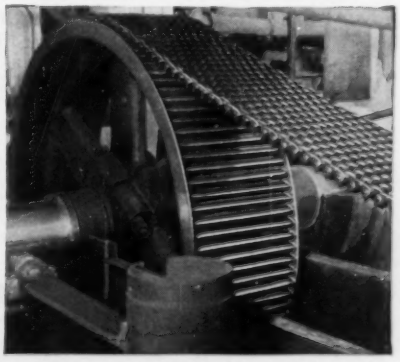
3 **Long life under severe service**—This 250-hp Link-Belt Silent Chain Drive has operated line shaft in cold draw section of seamless tube company since 1916.



4 **Fractional hp drives** are positive and dependable with Link-Belt Silent Chain. Above, two 3/16" pitch chains drive machine fabricating refrigerator parts.



5 **Accurate timing** is guaranteed for this dryer by Link-Belt Duplex Silent Chain. All shafts travel at uniform angular velocity, permitting precise coordination of process.



6 **Minimum maintenance**—This is one of 24 Link-Belt Silent Chain beater drives in a pulp mill. All have operated for many years with little attention.

For more information, write direct or use Reader-Service post card.

JENKINS' METLKOR®
BETTER BRUSHES FOR BETTER COTTONS

BRUSHING MACHINE

The widening uses and demands for cotton over past decades has created a number of new problems in production and finishing. M. W. Jenkins' Sons has designed and developed a special line of brushes to solve these problems. The results of this experience, research and development, in cooperation with leading textile mills and machinery manufacturers are available today in the highly efficient patented Jenkins' METLKOR brush.

This brush, with a permanent metal core, can be set with any bristle and can be rebristled when worn. Bound in place with corrosion-resistant metal and sealed in with solvent-proof plastic cement, the Jenkins' METLKOR brush is moisture-proof, acid- and alkali-resistant, will not sag, split or get out of alignment, is true balanced.

METLKOR brushes outlast other kinds of brushes and, in terms of service, are the most economical.

Whether you have a standard or special brush problem, Jenkins will manufacture to your specifications and needs, the right brush for the right job.

LIFEWOOD® *for wood core brushes and lags.*

OTHER METLKOR BRUSHES FOR COTTONS:

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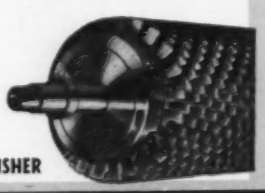
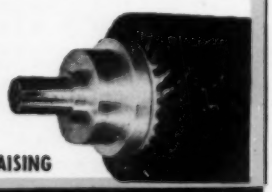


FURNISHER



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M. W. JENKINS' SONS, INC.

Over Three-Quarters Century of Pioneering Brushes for Industry.

Cedar Grove, Essex County, New Jersey

TELEPHONE Verona 8-5327

Letters From Readers

What's on your mind?

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD, 330 W. 42nd St., New York 36, N. Y.

MUST FOR FINISHERS

Dear Editor:

There is considerable interest in our plant in your article on "Cotton Crushproofing" [TW, Dec., '55, p. 102]. The manager is making it required reading for all the finishing supervisors.

J.S.T.

Greenville, S. C.

CHANGE ATTITUDE, SAVE MANPOWER

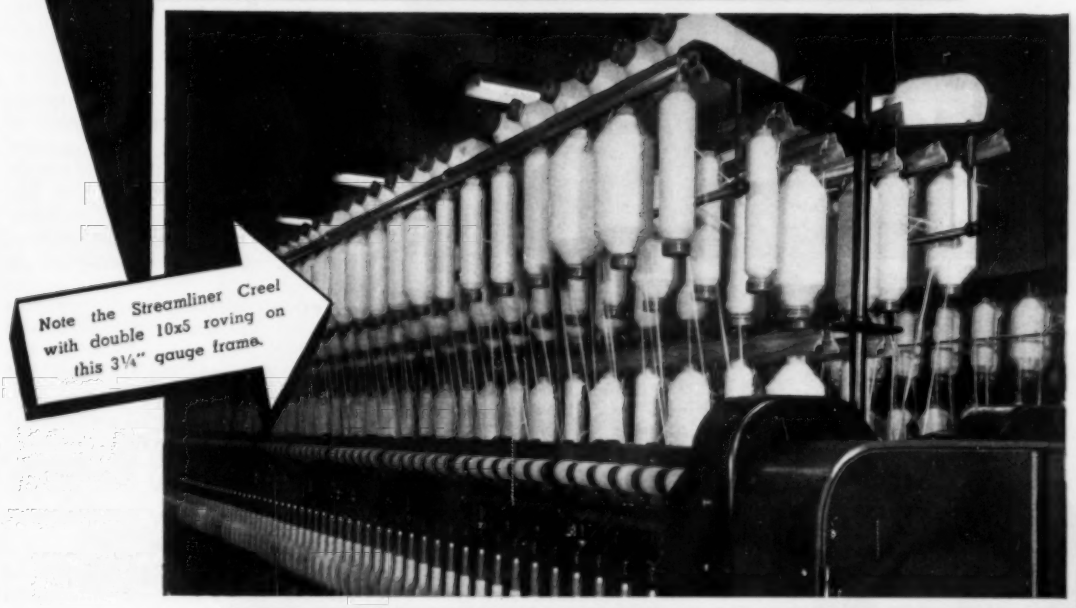
Dear Editor:

Mill management may feel it has done its duty and met its responsibilities when it maintains a safety program equal to the best in the textile field. And when foremen carry out what management dictates, can any more be expected?

Actually, safety rules and regulations can never be more than minimum requirements that will be applied to all workers. But a change of attitude on the part of foremen can uncover a vast field of safety as applied to the individual employee. Some men and women ought to have additional and specialized (but largely informal) training in safety to offset their own disadvantages.

For more information, write direct or use Reader-Service post card.

MODERNIZE SPINNING



ROBERTS HIGH DRAFT

Simplest All variables eliminated. No bearing gadgets, springs, pivots, or other elements to vary from spindle to spindle or month to month.

Most Effective Concentrated tests prove higher break factors, lower ends down, better yarn evenness and greater consistency of performance.

Least Expensive The simple combination of gadget-free elements provide a lower first cost and the lowest maintenance cost.

ROBERTS HIGH DRAFT
SPINNING MODERNIZATIONS

- Partial or complete Drafting System Changeovers
- Increased Draft Constant and Hardened Draft Gearing
- Streamliner Creels for Larger Packages
- Ball bearing Cylinders and Tape Tension Pulleys
- Increased Traverse on Bobbin
- Roller Bearing Spindles
- Rings and Ring Holders
- Inspection and Replacement of all other Parts

ROBERTS HIGH DRAFT
DRAFTING SYSTEM

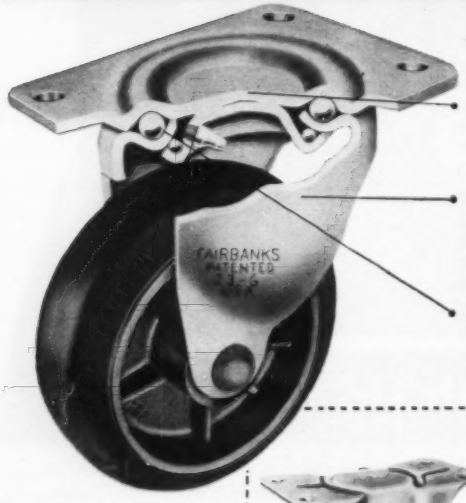
- a true double apron system
- a simple, uncluttered drafting system with all variable elements omitted
- the narrowest possible cradles, aprons and cots consistent with the gauge
- positively set and maintained top roll settings
- proper and unchanging weight distribution
- elimination or reduction of top roll and bottom roll lubrication
- strengthening of the draft gearing by use of hardened gears and studs plus increase in head-end roll neck diameters.

In addition to supplying all or any part of the above modernization material, we can provide a complete "turnkey job" including all installation and erection. The experience gained in the installation of more than 2 million spindles of Roberts High Draft is available to you on the smallest Changeover or the most complete Modernization.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

 For more information, write direct or use Reader-Service post card.

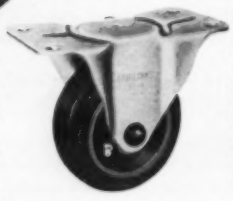
ACHIEVEMENT
IN CASTER DESIGN
FAIRBANKS
"LOCKWELD" Swivel Casters — Without King-Pin!



CHECK these unmatched advantages:

- No King-Pin. Patented "LOCKWELD" construction eliminates the major cause of caster failures.
- Patented leg design—spherical shape provides greater strength through better dispersion of shocks and overloads, easier swiveling under load.
- Larger raceways and ball bearings — perfectly aligned by the rigid welded structure — give faster, easier swiveling action.

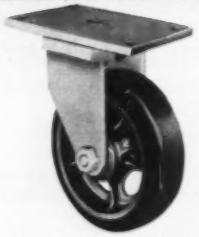
Fairbanks Series "23" double ball race swivel casters, for medium duty, sizes 3" to 8".



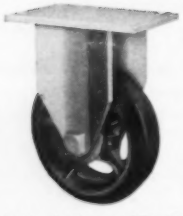
Fairbanks Series "33" rigid casters, match Series "23" casters in height, sizes 3" to 8".

Fairbanks Series "21" single ball race swivel casters, for regular duty, sizes 2" to 6". Matching rigid Series "31" casters available.

HEAVY DUTY STEEL CASTERS



Fairbanks Series "27" double race swivel casters, for heavy duty, sizes 6", 8" and 10".



Fairbanks Series "37" rigid casters match the Series "27" casters in height, sizes 6", 8" and 10"

Fairbanks Series "500" Vulcanized Rubber Tired Wheels, roller bearing, sizes 3" to 18". Standard of the industry

YOURS ON REQUEST: Casters and wheels catalog complete with specifications and details. Write for your free copy today.

Order Fairbanks products through your local distributor who is always ready to serve you.

THE **Fairbanks** COMPANY

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Branches: New York 3 • Boston 10 • Pittsburgh 22 • Rome, Ga.
Valves • Truck • Casters • Wheels • Dart & "PIC" Unions

Clearly enough, the worker with even the slightest physical handicap or suffering a slight "drag" from previous illness will benefit from extra attention. However, the accident-prone and those with mental attitudes that incline them toward such troubles may be considered as still-needier cases.

The foreman may call for outside help with these difficult problems, of course. But he alone is in a position to spot many of them, and he can do so only when he realizes that the safety demands of any particular worker may exceed the over-all level that applies to mill personnel in general.

Does management benefit from this program? Yes, because employees who have been made to feel safe on the job are not only more at ease but also less eager to accept other employment where their special needs might be overlooked or ignored.

GEORGE M. DODSON
Harrisburg, Pa.

Permanent File for TW

Because many readers have learned that the best source for information on textile manufacturing is a set of the back issues of TEXTILE WORLD, this publication has given permission to the Jesse Jones Box Corp., of Philadelphia, Pa., to make and sell special file boxes that should facilitate the orderly storing of back issues.

Two boxes will hold a year's issues, including the Fact File. Each box bears the typical TEXTILE WORLD name plate stamped in gold on a green, leatherlike, plastic covering and provides gold squares on which volume number and year can be written in ink. It is believed that most readers will find these gold-stamped, green and gray boxes attractive and suitable for filing in book cases.

Since TEXTILE WORLD publishes an annual index to its editorial content, a file of issues extending over several years will serve as an invaluable encyclopedia of modern textile-manufacturing practices. For many busy men, this unmatched source of finger-tip information should save long hours of search and inquiry. TEXTILE WORLD derives no income from the sale of the boxes and has made the agreement with manufacturer solely for the convenience of its readers.

The manufacturer will charge $2.50 per box. A quantity price for six boxes, for holding three years' issues, will be $13. For orders outside the U. S., $1 should be added for postage. Orders should be addressed to Jesse Jones Box Corp., Dept. TW, P. O. Box 5120, Philadelphia 41, Pa.—PUBLISHER.

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SAVE 9 WAYS

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Write to The Terrell Machine Co., Box 928, Charlotte, N. C. for your copy of 12-page booklet describing the AUTOCOPSER Automatic Quiller.

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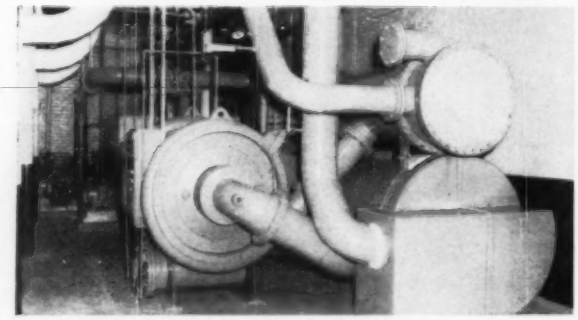
First Name in Automatic Quillers the World Over

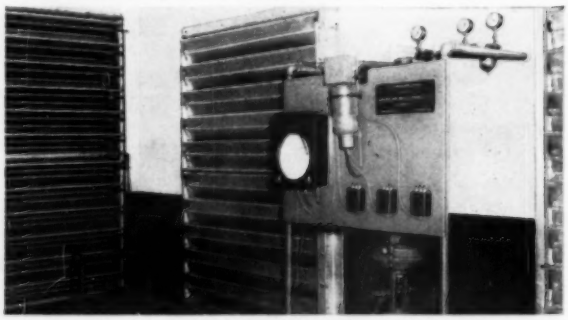
Sold and Serviced By

THE TERRELL MACHINE COMPANY, INC., 3000 S. BLVD., CHARLOTTE, N.C.

Card room at Highland Park Mfg. Co., Mill No. 1, Charlotte, N. C. Ductwork and zone control atomizers are part of Amco's central station system, designed by J. E. Sirrine Company for the entire mill.



Refrigeration is supplied by a 350-ton Trane Centravac unit located in the basement.



The Amco control panel alongside the fresh and recirculated air louvers.

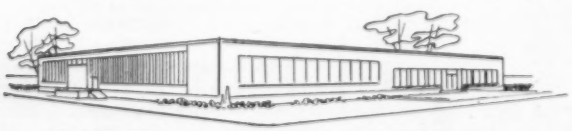
This ECONOMICAL split-system by Amco

provides thoroughly conditioned air, with maximum operating efficiency

Whether your need is for one room, or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification alone; or in combination with cooling, such as in the ductless evaporating cooling system; unit dry-duct systems; or central station systems.

The central station system Amco recently completed at Highland Park Mill is a good case in point. In order to effect savings, it was felt advisable not to install the excess air capacity found in conventional design. Instead, Amco installed a "hand tailored" split system using a smaller central station unit augmented by room atomizers, thus reducing both initial cost and operating cost. This system provides complete control with even greater flexibility of operation. Savings have been substantial.

Amco engineers will be glad to work out a solution to any problem you may have. Next time call on Amco for reliable advice. There is absolutely no obligation.

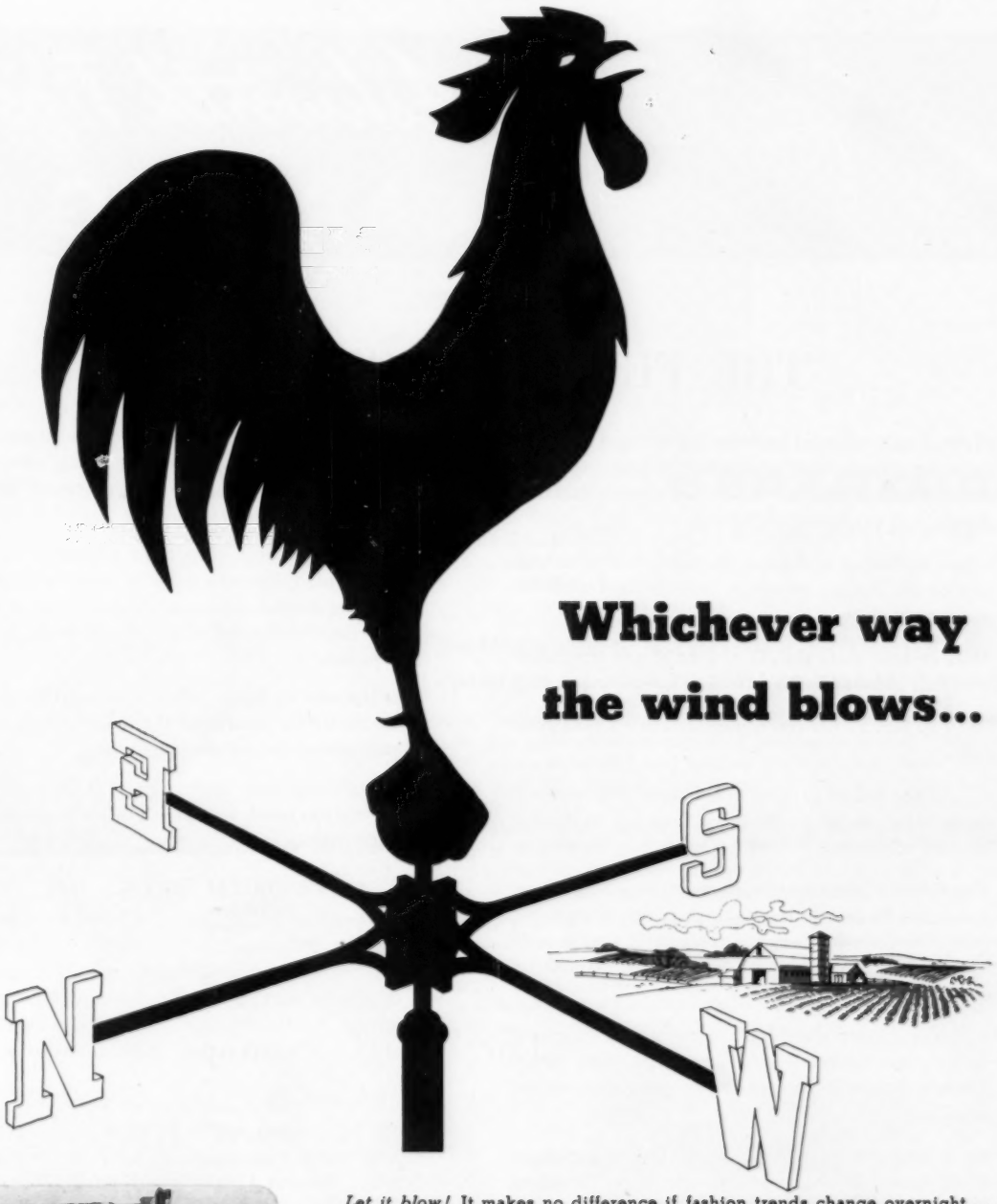


New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C., for the fabrication of duct work and sheet metal products.

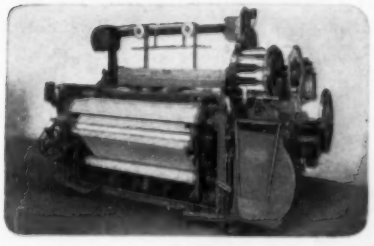
AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA, GA. • BOSTON, MASS. • CAMDEN, N. J. • CLEVELAND, N. C.



Whichever way the wind blows...



Let it blow! It makes no difference if fashion trends change overnight . . . in colors, patterns, constructions, yarns . . . when your weaveroom is protected by C&K's new **M**ulti-**P**urpose Looms. For these unique and all-new looms *can also be changed overnight* to supply any sudden new demands, even including conversion from plain to fancy constructions, or vice versa.

It's as simple as this: You can't buy better insurance for your mill (or your P&L statement) than these completely versatile **M-P** Looms. *Call C&K today.*

CROMPTON & KNOWLES *Loom works*

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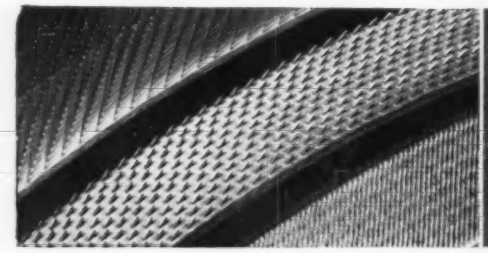
CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA.

Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are WOVEN Fabrics.



Ashworth Tips ON CARDING

No. 26 in a Series

THE FEED END OF CARD

1. Correct ratio of speed between lap roll and feed roll prevents stretch, and consequently unevenness of sliver. Check with card builder for correct gearing, should you experience difficulty.
2. Check surface of feed plate. Be sure it is smooth and free of oil. Rough spots can be smoothed with oil and emery cloth.
3. Nose of feed plate should be free of any irregularities that interfere with setting to gauge end to end.
4. See Tip No. 25 for recommendations on card feed rolls.
5. Set selvage guides so that lap delivered will measure from 39¼" to 39½". Never permit lap to double over on selvages.
6. The lickerin is the most important cleaning unit on your card. Be certain it is equipped with sharp wire, free of bruises or damaged teeth, and that it will set to gauge from end to end and all around its circumference.
7. Lickerin screens should be of the correct contour to fit your lickerins, and should be kept clean. Screens that will not set to the gauge should be discarded.
8. Mote knives must be straight, with working edges free from nicks, burrs and rough places. Brackets should be installed in pairs for exact alignment of mote knives and to permit of setting to the gauge all the way across the face of the lickerin.
9. The scavenger roll on the feed roll should always be completely covered with a good grade of napped fabric, to properly control draft between lickerin bonnet and feed roll.
10. The lickerin cover should fit properly, and the make-up piece between lickerin cover and cylinder back plate should also be an exact fit — all of this to better control the blowing out of stock at these two points.
11. The lickerin shafts and shrouds should be checked periodically for wear, and the lickerin bearing cap should always be securely tightened.
12. The quality of your carding starts at the back of the card, and too much attention cannot be given to all of the above.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
E. G. Paules, Representative — Los Angeles, Calif.
*Factory †Repair Shop ‡Distributing Point
3 Factories • 6 Repair Shops • 7 Distributing Points

PRODUCTS AND SERVICES

Clothing for Cotton, Wool, Worsted, Silk, Synthetic Fibre and Asbestos cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Topflats Reclothed.

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Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

FACTS

about

NEW DEPARTURE
BALL BEARINGS

Self-sealed bearings simplify design . . . cut maintenance costs

New Departure originated self-sealed ball bearings to eliminate the most common causes of bearing wear and failure—such as abrasive dirt and improper lubrication. Since then, more than 300,000,000 New Departure sealed bearings have been produced in various types to fit the specific requirements of industry. Seals are available to keep out foreign matter, ranging from dust and dirt to corrosive gases . . . to retain lubricants, varying from heavy grease to light oil . . . to provide the protection that assures longest life.

New Departure's latest advance, Sentri-Seal, embodies exclusive features which importantly improve both bearing performance and range of application. Because of its design, Sentri-Seal provides controlled, highly efficient sealing with low torque and is not materially influenced by axial movement due to bearing end play within prescribed tolerances.

Sealed ball bearings offer the textile industry many advantages. They prevent leakage of lubricant and contamination of goods being processed. Sealed ball bearings require little or no maintenance and assure trouble-free operation for extremely long periods.

WRITE FOR COMPLETE INFORMATION ON NEW DEPARTURE SEALED BEARINGS!

NEW DEPARTURE • DIVISION OF GENERAL MOTORS CORPORATION • BRISTOL, CONN.

 For more information, write direct or use Reader-Service post card.

News about

B. F. Goodrich Chemical *raw materials*

Hycar latex sizes... upgrade cotton fabrics, improve hand, washfastness and wear life

SIZES made from Hycar latex (dispersions of Hycar nitrile rubber in water) are as much as 300% more effective than starch sizes in improving wear resistance in cotton fabrics. (Tests made under Federal Specifications CCC-T-191-B, with Stoll Universal Wear Tester.) At the same time Hycar gives a soft, yet full, hand and increases resistance to stain and fading.

Blends of Hycar with urea or melamine formaldehyde (used for increased crease resistance) bring back and even exceed the fabric tear and abrasion strength lost by the addition of urea or melamine formaldehyde alone.

Wool, as well as cotton, comes in the picture with Hycar latex used as an after-treatment to reduce crock, particularly with red naphthol dyes. With cotton and rayon Hycar is used as a binder for pigment coloring and printing.

In cotton it is used as a carrier for such agents as fungicides and flame-proofing chemicals and as a binder for waxes and metallic salts used for water repellency or stain resistance.

What can Hycar latices do for you? For complete information please write Dept. EV-1, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company

A Division of The B. F. Goodrich Company

Hycar

Reg. U.S. Pat. Off.

American Latex

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

Make the right move!

Use Louis Allis Textile Motors and Adjustable Speed Drives

SELECT-A-SPEDE
An adjustable-speed drive for operation on A-C power. New magnetic amplifier, adjustable voltage control. 5 to 150 HP, single motor or multi-motor range drives.
LOOM MOTORS
Built especially for loom service, for new, old, and 3-point mountings. ½ to 2 HP.
SELF-CLEANING MOTORS
Pioneered and developed by The Louis Allis Co. for textile applications. Special torques for card drives — soft starts for spinning frames — or any other special application
AJUSTO-SPEDE
An Alternating Current adjustable speed drive using the versatile Eddy Current Clutch. ¼ to 75 HP. Also available in multi-unit range drives.
GENERAL PURPOSE
General-purpose motors include splash-proof as shown. Available with dye-house insulation, excellent for pump application in finishing and bleach plants.

Louis Allis has a special purpose motor or multi-motor range drive for any power requirement in the textile industry.

Louis Allis motors and multi-motored range drives are busy turning the wheels of the textile industry — on cards, pickers, warpers, tenters, spoolers, slashers, batchers, padders — and all the other complex machinery that produces America's fabric.

Let Louis Allis help you to select the proper motors or drives for greater production and more efficient operation. Consult your nearest Louis Allis District Office or write us.

THE LOUIS ALLIS CO.
MILWAUKEE 7, WISCONSIN

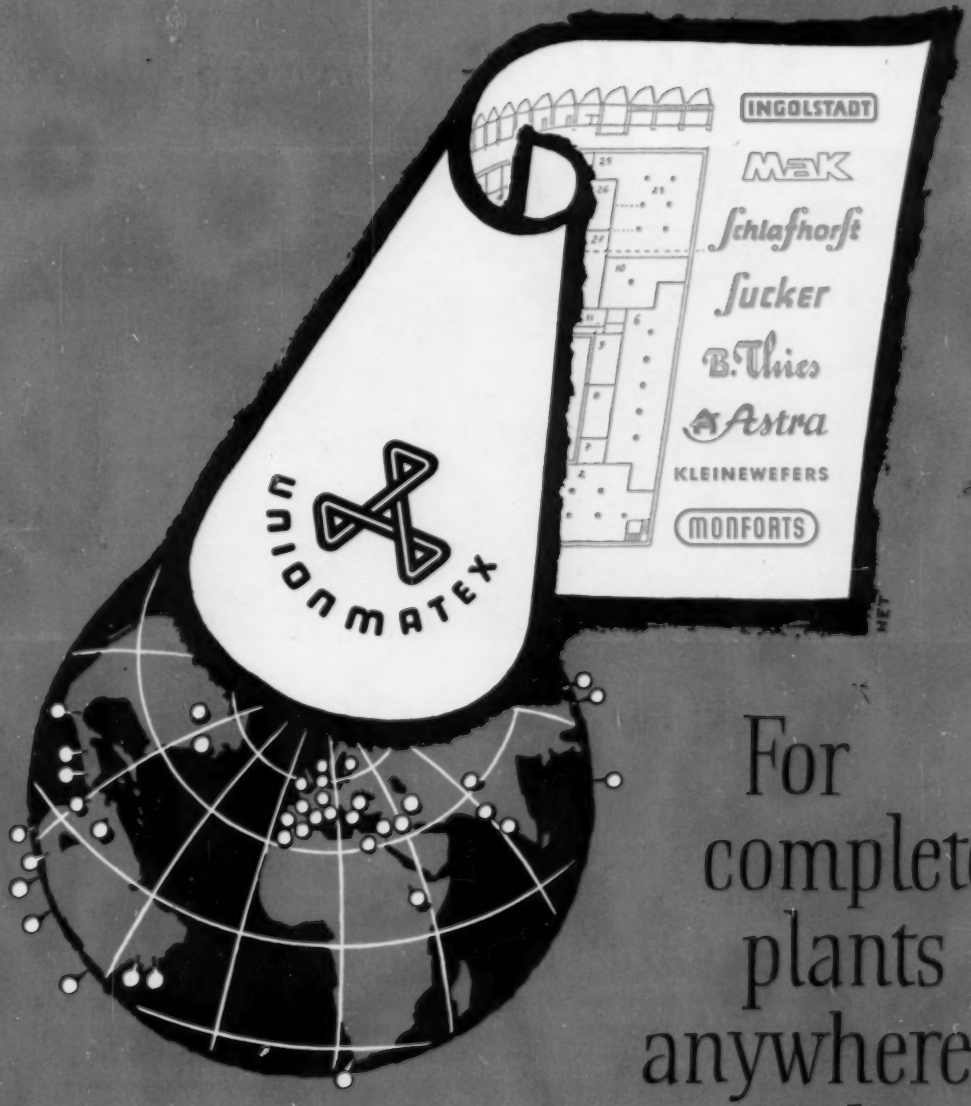
TX-102

Textile Engineering
BLEACHING & FINISHING

Continuous processing in all phases of textile finishing has already proved its ability to cut production costs, increase production and overall profit. Many leaders in the bleaching and finishing field have already tooled up to engage in this faster, more profitable form of production. On hand, to blueprint the modernization, the production layout, and the new buildings that house many of the nation's most modern operations, have been the skilled planners in the Textile Engineering Division of Robert and Company Associates. An engineering survey of your existing operations will enable you to better judge your expansion and profit potential, as our more than 40 years experience in all phases of textile engineering has helped others.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

INGOLSTADT: SPINNING MACHINERY FOR COTTON-WORSTED-CUT RAYON MAK: CARD SETS · SELF-ACTING MULES · RING SPINNING FRAMES SCHLAFHORST: MACHINES FOR WINDING-WARPING AND SECTIONAL WARPING SUCKER: SIZING MACHINES · SIZE MIXING AND COOKING INSTALLATIONS THIES: DYEING AND BLEACHING PLANTS FOR YARNS AND CARD-SLIVERS OF ALL KIND ASTRA: WEAVING MACHINES FOR COTTON-, WOOL- AND SPECIAL FABRICS e. g. FELTCLOTHS · JACQUARD-WEAVING MACHINES KLEINEWEFERS: CALENDERS · MANGLES · PRINTING-, MERCERIZING-MACHINES · CONTINUOUS BLEACHING AND DYEING PLANTS MONFORTS: FINISHING MACHINERY · MEASURING, INSPECTING, PLAITING, ROLLING AND DOUBLING MACHINES FOR ALL KINDS OF CLOTH



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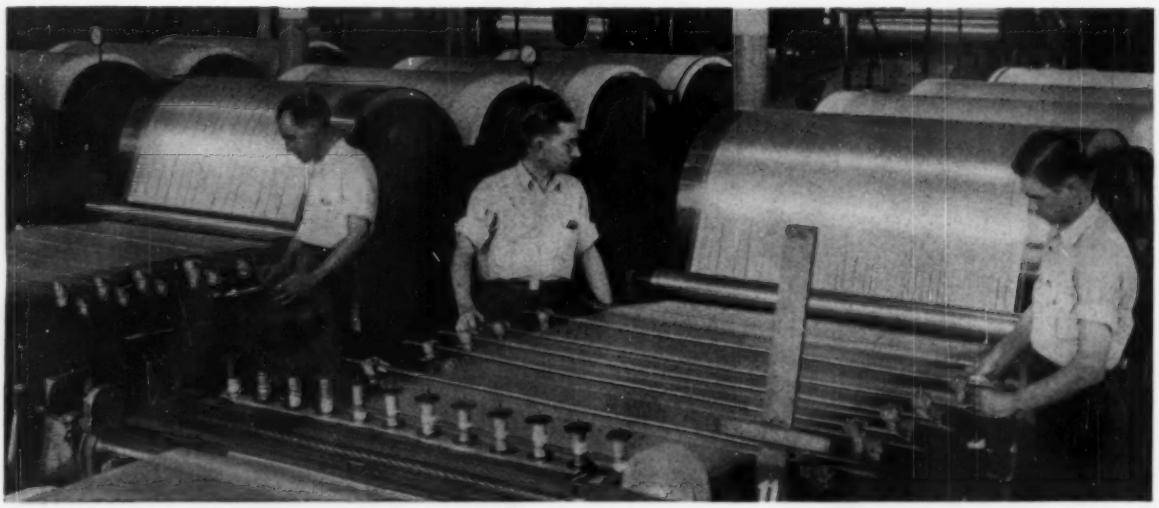
a clean break at the split rods for your DACRON yarns!



with NOPCOSIZE® D

(water soluble synthetic polymer size)

...and you don't need stainless steel equipment (Nopcosize D contains no corrosive acids)

Now *any* mill can slash Dacron* filament yarn efficiently and economically. In addition to its outstanding split rod performance and non-corrosive action, Nopcosize D provides these further advantages: (1) Nopcosize D is a liquid; (2) It does not foam in the quetsch pan; (3) It prevents the sized yarn from becoming gummy or tacky during weaving at 60%-75% relative humidity and constant temperature of 78°-80° F; (4) It is easily removed with soap boil-off; (5) It has excellent storage stability; (6) It reduces static conditions of filament yarn to a minimum.

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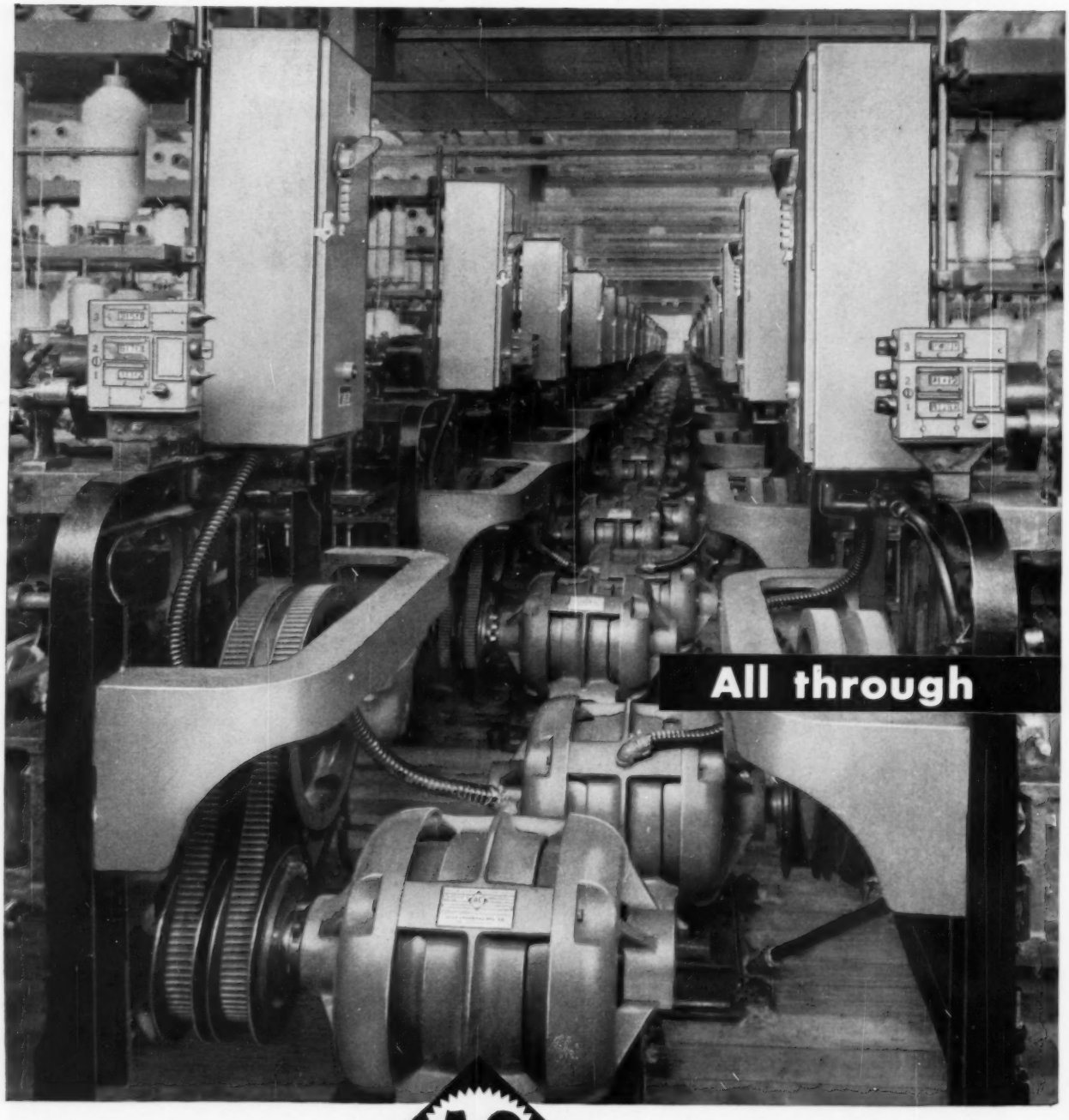

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Quick-Clean Motors and *Texrope* Drive equipment are designed to work as a cost-cutting team

• From power line to driven shaft, Allis-Chalmers textile drive equipment is designed to increase your quality and production . . . cut your maintenance costs.

Quick-Clean motors and *Texrope* drive equipment are all specially tailored to give maximum efficiency in a specific part of the mill. In the card room, on the spinning frame, for the loom drive, in roving and weaving, these Allis-Chalmers products have proven their ability.

Less Motor Stoppage

Quick-Clean motors are engineered for trouble-free service in humid, lint-laden atmospheres. Combination of wide-open design, streamlined interior surfaces, and smooth powerful fans eliminates lint accumulation. The result — Allis-Chalmers motors run cool.

Fast Speed Adjustment

Vari-Pitch sheaves, member of the famous *Texrope* drive family, provide in seconds the exact speed needed for any yarn number.

Whether you're ordering motors and *Texrope* drives separately or as components of new machinery, A-C engineers are ready to help with your requirements. Contact your nearby Allis-Chalmers sales office or distributor, or write Allis-Chalmers, General Products Division, Milwaukee 1, Wisconsin. A-4923

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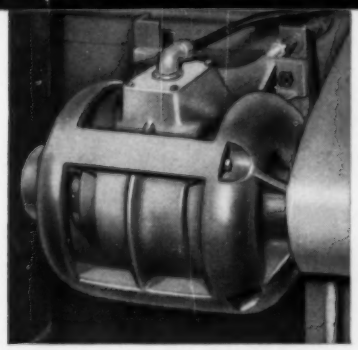
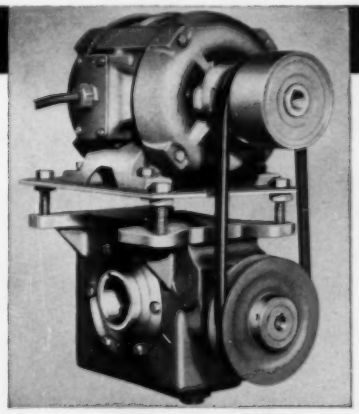
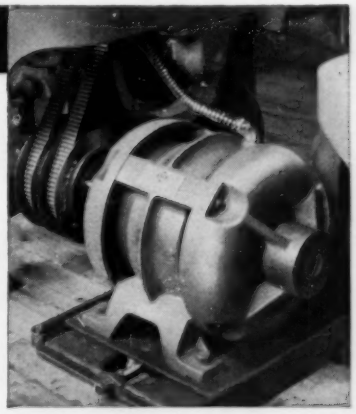
the mill . . .



Roving —Special, slow, smooth acceleration characteristics are built into this *Quick-Clean* motor to provide slow starts, fine jogging — produce uniform roving.



Carding — Compact card drive package with *Quick-Clean* motor and *Texrope* drive eliminates overhead shafts and belts—solving problems of lighting and cleanliness.



Spinning—*Texrope* drives link this *Quick-Clean* motor to the frame. Open air passages and powerful fans sweep dirt and lint through and out of the motor.

CHALMERS

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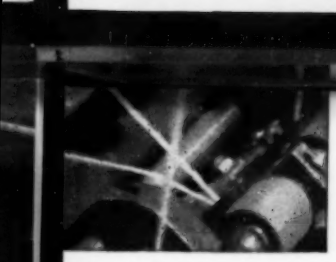


Check eyebrows . . . Raise Yarn Uniformity up to 10%

with DAYCO Cots / Long Draft Aprons

One easy, intelligent decision will increase yarn quality up to 10% in your mill and eliminate the major cause of costly, wasteful eyebrowing. Install the amazing Dayco spinning combination—Dayco Cots and Dayco Long Draft Aprons.

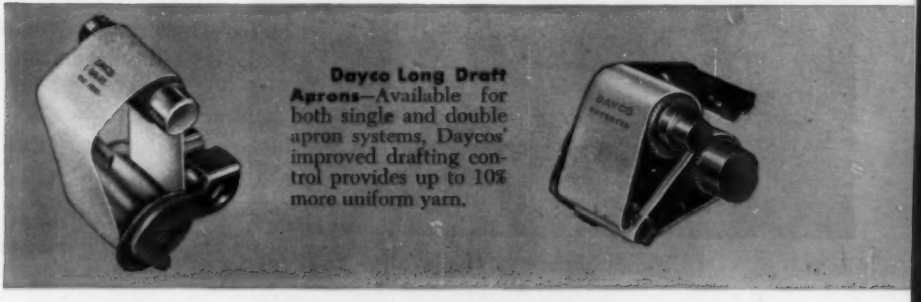
Dayco Cots contain IBC, the exclusive Dayton ingredient which gives Daycos the precise co-efficient of friction to draw yarn smoothly, leaving the long staple fibers in the yarn. Result: substantially increased quality—*and* increased production when less time is lost due to eyebrow-caused lap-ups and ends down.

Because IBC retards glazing of the durable, cushioning Dayco surface, that doesn't pit or groove, buffing and replacement costs go way down.

Dayco Long Draft Aprons installed on your spinning frame will give you up to 10% more uniform yarn. Precision-built to .004 tolerance Daycos give constant, unvarying control of the yarn in the drafting area.

With a strong, pliable, cord body Daycos won't stretch or take a permanent set, so Monday-morning starts are free from flipped or broken aprons. Unaffected by temperature, humidity or hard ends, Daycos won't curl, become sticky or groove.

Make a test of Dayco's quality producing, cost reducing spinning combination—Dayco Cots and Dayco Long Draft Aprons. For information write Dayton Rubber Company, Textile Division, 401 S. C. National Bank Bldg., Greenville, S. C.



Dayco Long Draft Aprons—Available for both single and double apron systems, Daycos' improved drafting control provides up to 10% more uniform yarn.

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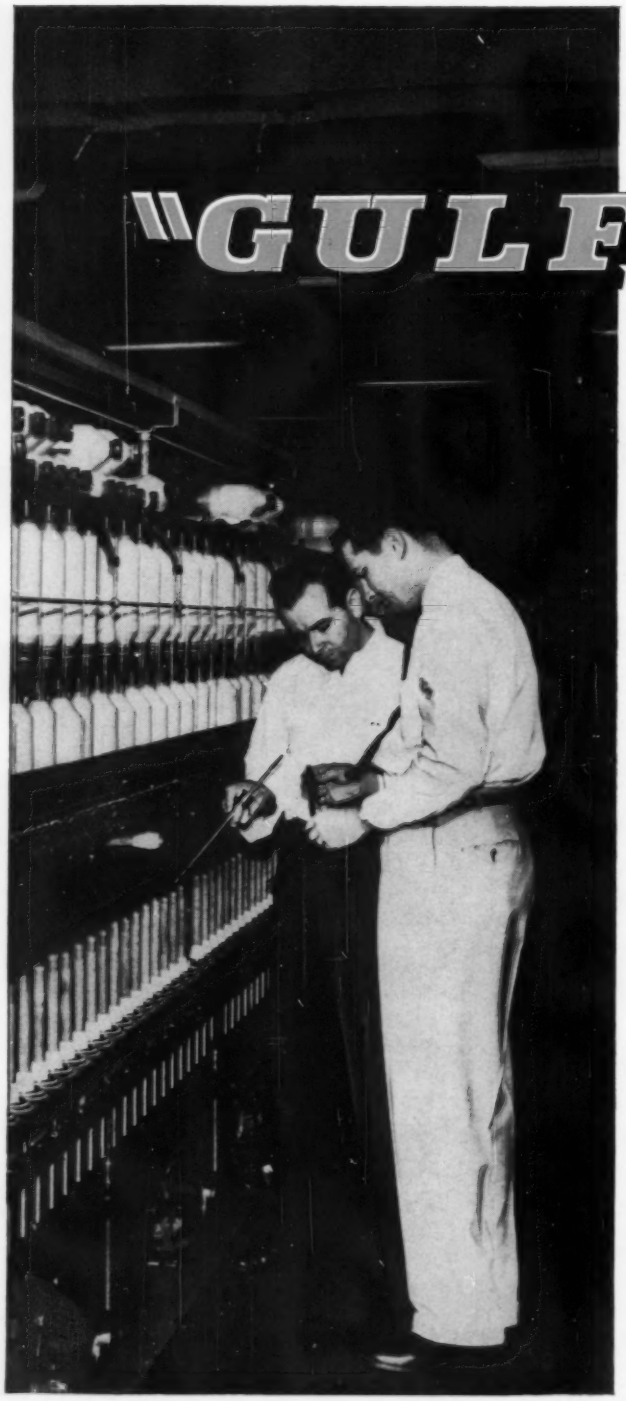

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keeps our spindles spinning clean and free,"

says...

W. M. LONG, superintendent
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"We have used Gulfspin for four years and have found that it almost entirely eliminates sticking spindles," says Mr. Long. "It also keeps sludge in suspension so that we do not have to pump our spindle bases as often."

In addition to the benefits cited by Mr. Long, Gulfspin also provides effective protection against rust and reduces power costs because of its ability to maintain its original viscosity after many months of service.

You'll find that the use of Gulfspin will contribute to smoother spindle operation, fewer ends down, and rock-bottom maintenance and power costs.

Contact a Gulf Sales Engineer and let him demonstrate Gulfspin's superiority on your frames. You'll find the number of your local Gulf office in the telephone directory.

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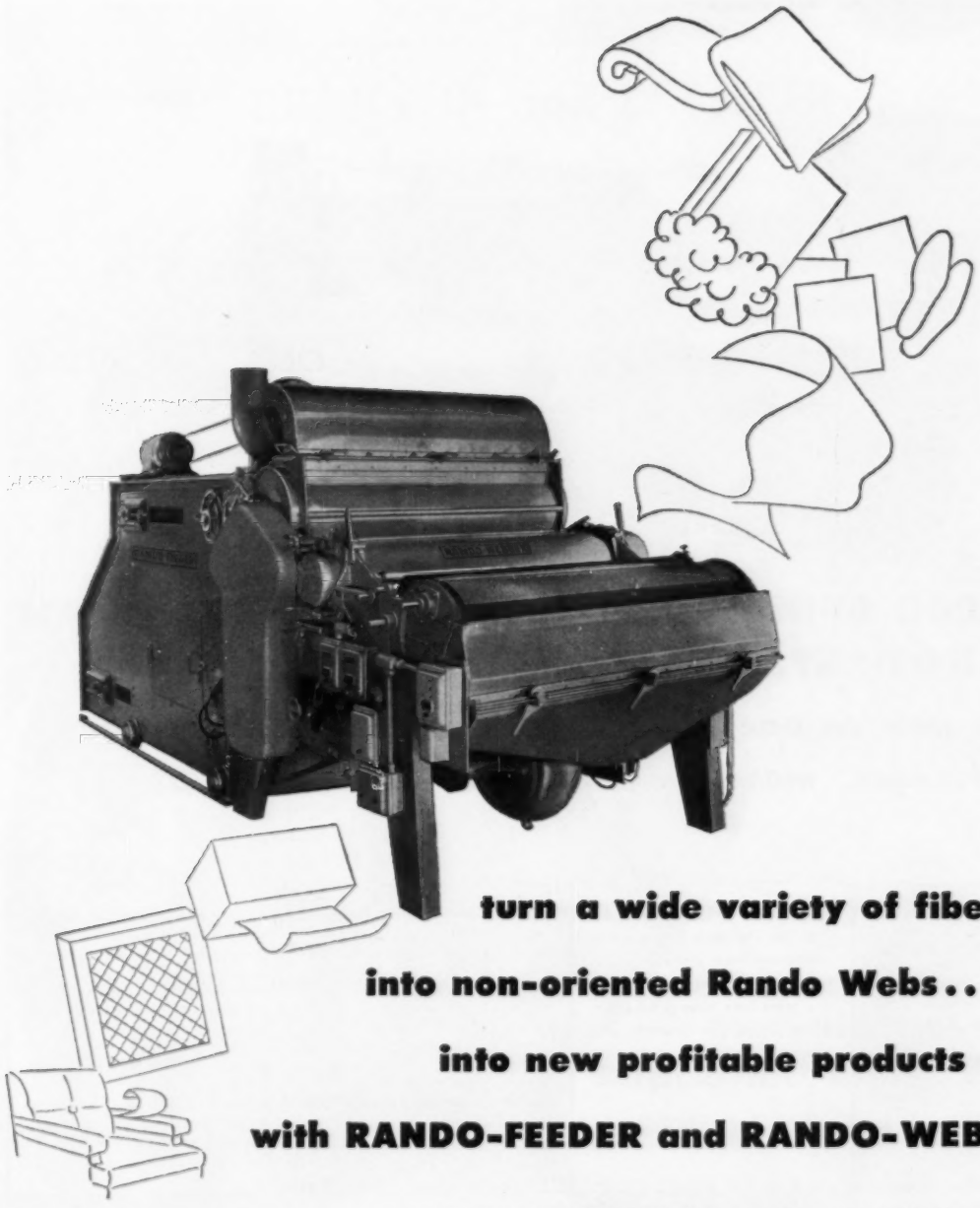

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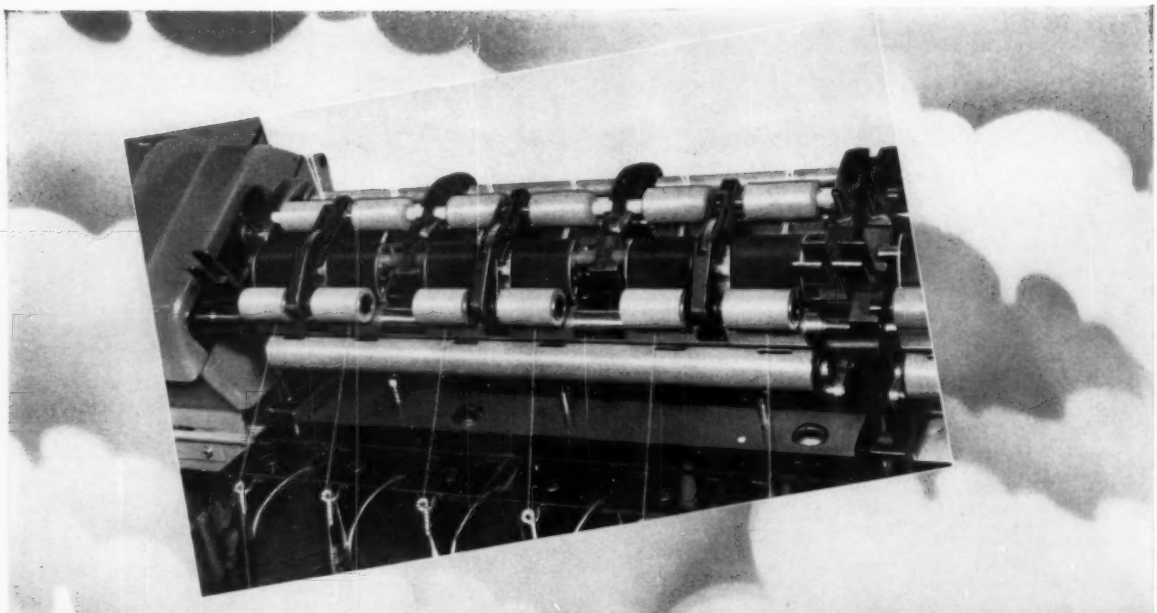

1,250,000 SPINDLES OF SACO-LOWELL DUO-ROTH —BOTH STANDARD AND STAY-CLEAN*—

are now in operation producing higher quality, stronger, more even yarn in over 280 mills.

1. The long, thin, flexible bottom apron passes the nose of the apron bar with a small radius of curvature in a manner which allows a close setting between the nip of the aprons and nip of the front roll, a condition necessary for the most efficient fibre control in the final drafting zone.

2. Without exception, mills using the Duo-Roth System have increased their drafts as much as 50 to 100 per cent, and at the same time have produced a yarn of greater strength and evenness.

3. The greater strength and evenness is vividly shown in a Duo-Roth installation producing 21's yarn from .75 hank single roving, employing a 4.52 twist multiple — the break factor secured is 2339. Previously, the same frames running regular drafting were producing 21's yarn from 1.50 hank single. With same twist multiple highest break factor obtainable was 2104.

4. Duo-Roth is cleaner; there is a reduction in clearer waste as the shorter fibres are efficiently controlled. After raising the draft from 19 on Roth to 33 on the Duo-Roth, one mill was able to extend the top roll cleaning period from 24 hours to 48 hours, on a three-shift basis. Another mill, with a 50 per cent increase in draft after changing to Duo-Roth, also extended the top roll cleaning period from 24 hours to 48 hours.

5. Duo-Roth was engineered to be a simple, quickly applied change-over to existing Roth installations. Mills having Roth frames in good condition will find that Duo-Roth will pay for itself in savings resulting from increased draft, reduced cleaning, improved operating conditions and smoother, stronger yarns.

6. Duo-Roth is the only double-apron drafting system which does not develop wear of the cage against the apron driving roll. The standard Duo-Roth middle top roll, driving the apron, is built with a stationary arbor. The cage rests against the stationary arbor, eliminating the possibility of cage wear — a common problem with other systems.

7. The knurled and polished surface of the Saco-Lowell Duo-Roth middle top roll creates a positive and uniform drive for the aprons. Since both of the driving bosses are tied together, there is no variation in the speed of the top roll aprons regardless of the bulk of the strand being drafted. There is no slip or hesitation to create unfavorable conditions in the principal drafting zone.

8. The Duo-Roth, with the adjustable cage is extremely flexible. The correct pressure to establish the necessary degree of fibre control for the most efficient drafting can be quickly attained through easy adjustments.

A BROCHURE FULLY DESCRIBING SACO-LOWELL DUO-ROTH IS AVAILABLE ON REQUEST. SACO-LOWELL ENGINEERS WILL ALSO BE GLAD TO ARRANGE A DEMONSTRATION.

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Whether you weave, knit or crochet . . . whether you work in cotton, wool, silk, linen or the synthetics . . . give your fabrics greater eye-appeal and buy-appeal with new, glittering FAIRTEX Yarns.

These new FAIRTEX Yarns are backed by many years of experience and fifteen months of research and development. To Branson Company's comprehensive knowledge of weaving and knitting has been added Lassiter Corporation's notable proficiency in the plastics field.

FAIRTEX Metallics are non-tarnishing, highly color-fast and heat-resistant . . . they may be fabricated with ease on practically any type of machine.

FAIRTEX Metallic, Supported Metallic and the new Mylar* Metallic Yarns are available now in a wide range of sparkling colors to meet the designers' every requirement.

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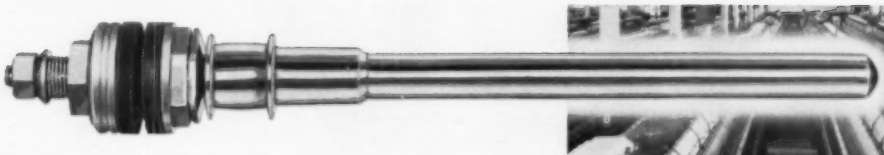

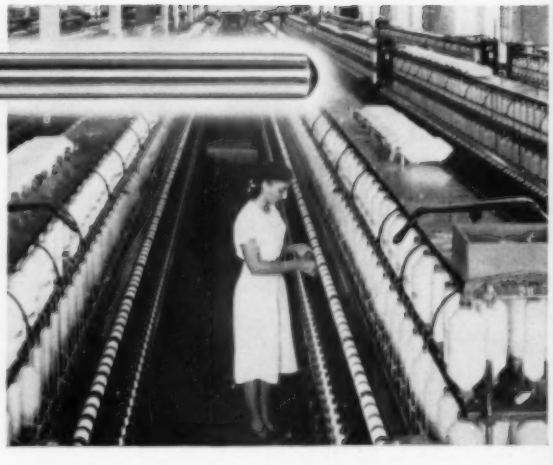

PROTECTION AT 10,000 RPM. There's no place for eccentric tubing or non-uniform wall thickness in textile mill spindles that must turn at 10,000 rpm. That's why they are made from Republic ELECTRUNITE Steel Tubing. Uniform wall thickness and concentricity are assured by the way ELECTRUNITE Tubing is made. Carefully rolled flat steel is inspected on both sides. Then formed into a cylindrical shape that's electric-resistance welded for uniform strength. The result: Uniform tubes in every dimension, every contour. Send coupon for more facts.

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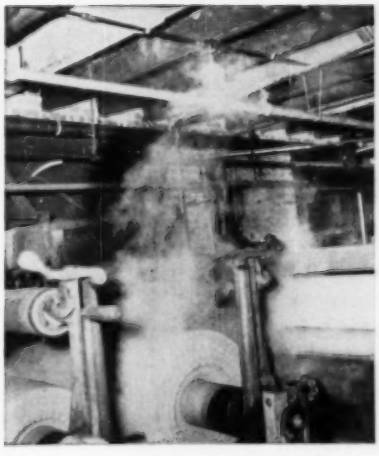
There's no need to worry about color contamination when you use equipment made from Republic ENDURO Stainless Steel. It's the metal that's safe for the most delicate colors and fabrics.

ENDURO is non-contaminating. It does not react with dye bath chemicals or peroxide bleaches. It stubbornly resists rust and corrosion, eliminating the danger of off-colors caused by metallic oxides. A water rinse quickly restores ENDURO surfaces to sparkling cleanliness and permits fast color changeovers.

ENDURO is solid stainless steel all the way through. There are no applied surfaces to crack, chip, peel or flake—never any danger of snagging sheer fabrics. Even at high temperatures, ENDURO resists scaling.

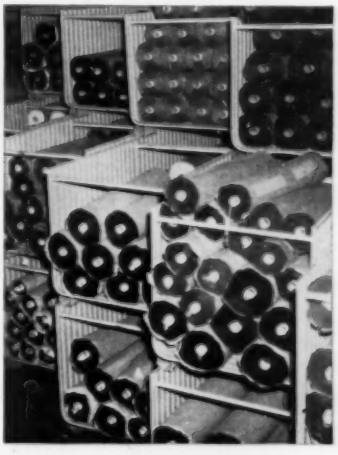
Any slightly higher initial cost of ENDURO equipment is more than offset by years of maintenance-free service.

These are only a few reasons for using ENDURO equipment. Your supplier will give you others about the metal that protects, that cuts costs, that lasts and lasts—Republic ENDURO Stainless Steel. Or write us for more information.



DOUBLE PROTECTION AGAINST STEAM AND FUMES for electrical circuits is provided by the tough, polyethylene coating over the galvanized finish of Republic Dekoron-Coated Electrical Metallic Tubing. Raceways are protected from end to end. Installation is easy. Moisture-tight joints are made, using threadless connectors and couplings. Joints are sealed with vinyl or plastic tape. Dekoron-Coated E.M.T., made by Republic's Steel and Tubes Division, reduces replacement costs. Cuts down-time of costly equipment. Booklet DEK-1 has all the facts. Write for it.

PROTECTION IN STORAGE AND REDUCED HANDLING COSTS are the results of the special units developed by Republic's Pressed Steel Division for a dye company. "In the gray" bolts of cloth are received from customers, then dyed, bleached or printed and stored for indefinite periods. Small amounts are parceled out as the customers request them. The problem of handling, transporting and storing the cloth is greatly reduced with Republic's special unit. Open-end construction permits easy access to cloth. Offset channels under unit permit tiering. Four-way entry permits easy handling in restricted spaces. Want more facts? Mail the coupon.



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To *"old timers"* this cut stick technique of measuring the warp may seem just as good today as it was 40, 80, or 100 years ago!

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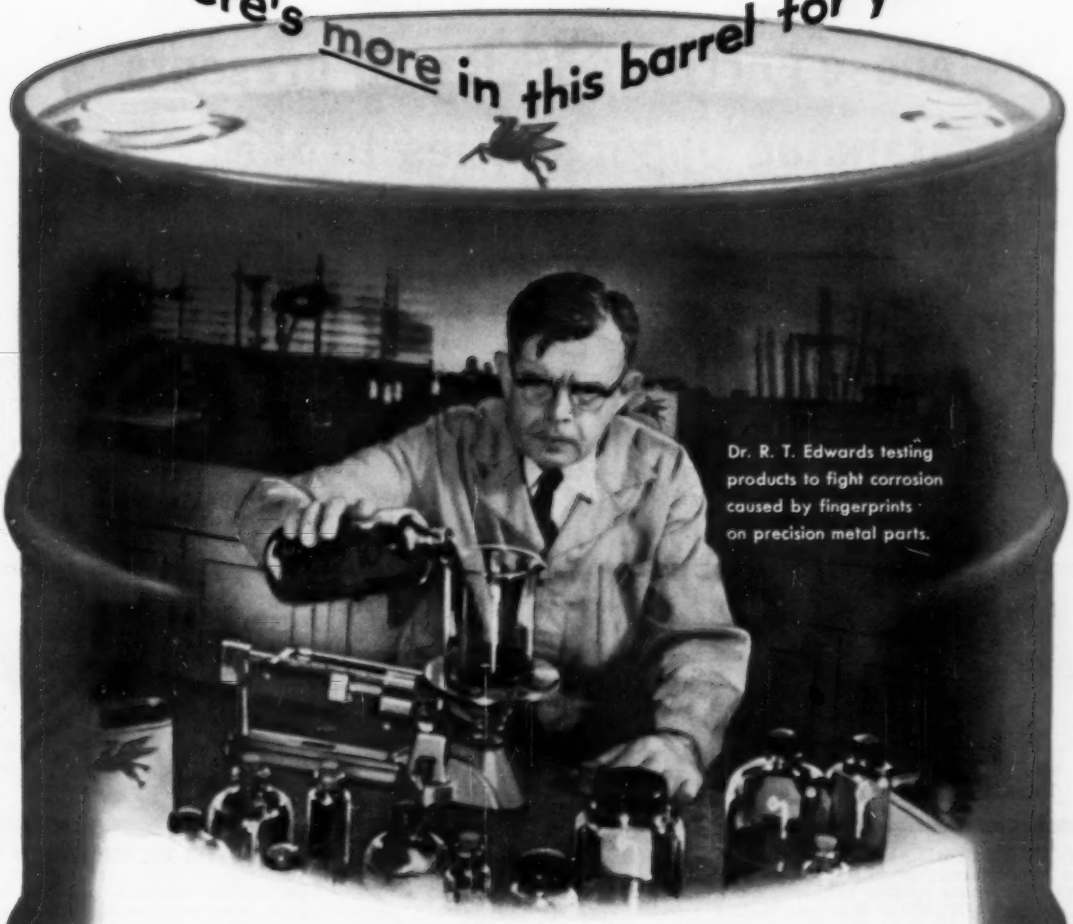

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When you specify "Socony Mobil," you get petroleum products backed by *more continuous research* than those of any other oil company! This means products which are *continually improved* in quality and performance—*new* products when needed. Equally important . . . these complete research facilities are available to *you*—to help improve your production and lower your unit costs.

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Celanese Fortisan*-36 Rayon presents outstanding opportunities to the weaving and throwing trades

Current success of FORTISAN-36, the new Celanese high tenacity, heavy-duty rayon from saponified acetate, offers an excellent opportunity for mills selling to the mechanical rubber goods, coated fabric and other industrial markets.

The extreme tensile strength, low elongation and exceptional dimensional stability of FORTISAN-36 is dramatically changing weight strength ratios now in use for standard constructions. For example, a standard 42 oz. cotton fabric popular in the rubber industry can be duplicated in a cloth weighing 21 oz. by using a FORTISAN-36 warp of equivalent tensile strength. Applications where performance of FORTISAN-36 appears outstanding are:

V-BELTS: Used as a reinforcing cord or as a cord fabric, the fiber's dimensional stability makes possible matching belts. Cords of FORTISAN-36 do not expand or contract under atmospheric changes or work as will belts using competitive fibers. Some of the singles, cords, and cables presently employed are 1600/5,6. 1600/2/3. 800/3. 800/4/3. 800/5/3.

HIGH PRESSURE FIRE HOSE: Used as filler cords in interior and exterior jackets it makes possible light, very strong, flexible, highly heat resistant hose which racks and handles easily. Cords now used are 1600/5,6,7,8,9,10.

CONVEYOR BELTS: FORTISAN-36 makes possible extremely strong yet thinner, lighter-weight belts with good troughing qualities that permit employment of longer distances between centers and higher tensions. Cords, cables and woven ducks are used here.

HIGH PRESSURE BRAIDED HOSE: The fiber's qualities permit lighter, safer, more flexible and pressure resistant hose. Now being produced are 1600/1,2,3. 800/1,2,3.

TARPAULINS: Elastomer coated FORTISAN-36 flat yarn woven fabrics have outstanding advantages in dimensional stability and strength during all processing and use. The final product has excellent tear and puncture resistance, and is resistant to ultra-violet degradation.

WEBBING: FORTISAN-36 low stretch tent, cargo tie-down and automotive safety belt webbings woven with a stuffer construction offer desirable properties in high strength, stretch resistance, and dimensional stability.

Other applications in which FORTISAN-36 is proving its merit are auto truck tires, plastic laminates, filters, paper reinforcement and oil hose.

For information on FORTISAN-36 write for Booklet #TD 20A. This revised booklet was printed during the past few weeks to incorporate additional data on FORTISAN-36 cords and fabrics. Celanese Corporation of America, Industrial Sales Department, Textile Division, Charlotte, North Carolina. Branch offices: 180 Madison Avenue, New York 16; Pilgrim Square Building, 9 Overwood Road at West Market Street, Akron 13, Ohio. Telephone TE 6-2392.

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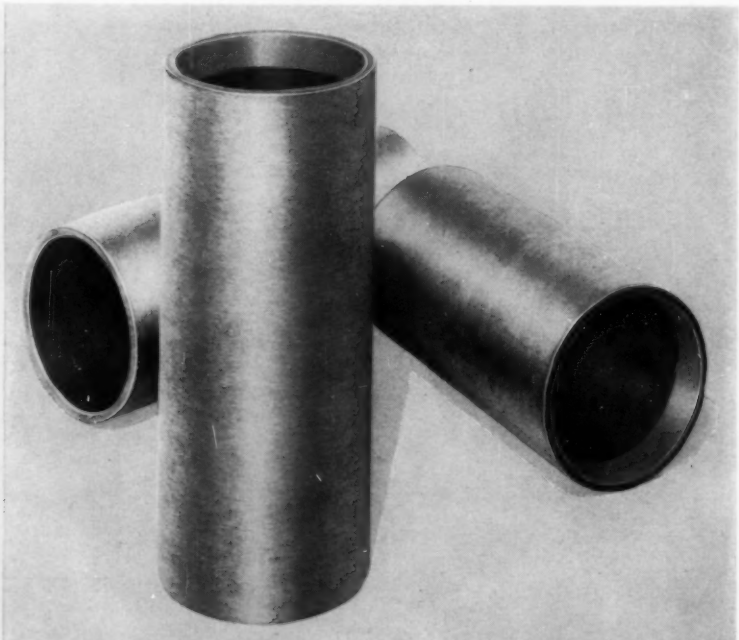
LAP ROLLS

for Lap Winders



Now from SONOCO—new D-3 Duroweld Lap Rolls that offer a number of distinct advantages!

Because of their exceptionally long life, SONOCO Duroweld Lap Rolls are more economical—weigh less than steel tubing—and run cooler, too. These lap rolls can be easily reworked to remove nicks, and even after long service they do not develop sharp edges or fray on the ends.

SONOCO Duroweld Lap Rolls are chamfered inside at the ends to comply with Saco-Lowell Drawing No. 3DL331. Available in standard 9" and 10½" lengths with 4½" O. D.

For further information, consult your SONOCO sales-engineer, or write us direct.

saves money!

lighter than metal!

sonoco

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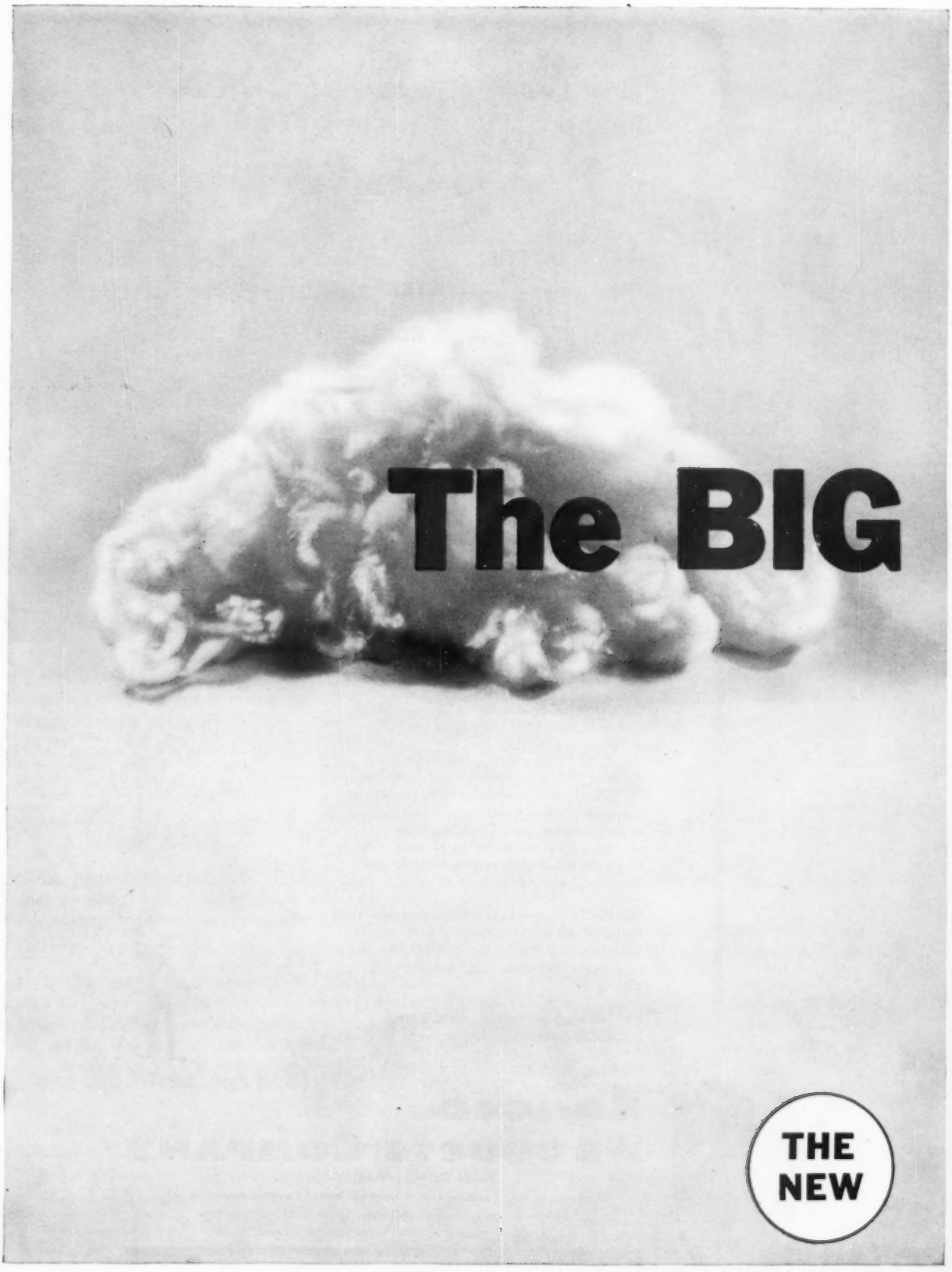
The BIG
THE
NEW

- **BRIGHTER LUSTER**
- **LOWER DYE COSTS**
- **BETTER CRIMP**
- **GREATER RESISTANCE TO ABRASION**
- **GREATER STRENGTH**
- **NEW ECONOMY FOR YOU**
- **MORE RESILIENCY WITH LESS CRUSHABILITY**

SEVEN

Put new life in your product...bring new products to life

A great new fibre capable of giving your product seven unique, highly desirable qualities has been developed. It is the NEW Nylon Staple, produced by IRC.

Put to the test by leading manufacturers, the NEW Nylon Staple has provided dramatic product developments and improvements through these seven great features.

IRC's technical staff stands ready to work with your people—at your plant to put the Big Seven to work for you. Call us.

Nylon Staple

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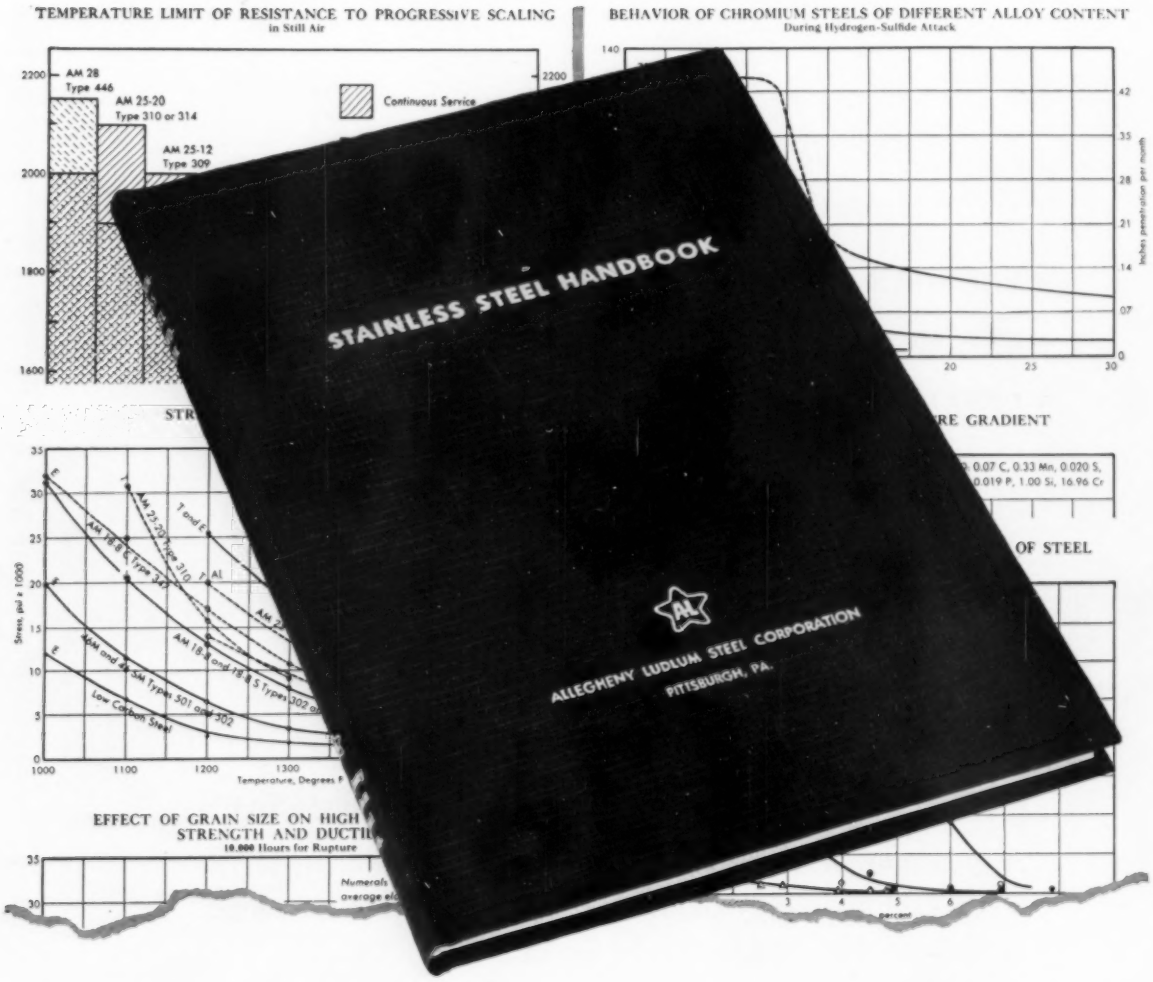

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The latest edition of our comprehensive 124-page, case-bound Stainless Steel Handbook is ready for distribution now. It will help you to select the right stainless steel and to use it properly. Comprehensive listings of analysis, properties and characteristics of each type will guide you in specifying grades that will do your job most efficiently. Clear, concise fabrication data will help you speed production and cut waste.

Your copy of the Stainless Steel Handbook will be sent—*without charge*—upon request. Our only stipulation: please make your request upon your company letterhead. • Write *Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.*

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Smart "clock-watchers" made

Nacconol® SL

the largest selling liquid detergent in the textile industry*

Time and money conscious mills know you can save handling time and costs too with Nacconol SL. Being a liquid concentrate, it is easy and clean to handle *and* requires no dissolving. Simply add water to secure the desired working concentration.

And remember—you get more cleaning-power-per-dollar with Nacconol SL (based on an active ingredient basis compared with most dry products).

Why not join the mills that are cutting production costs with Nacconol SL?

Other popular forms of Nacconol for wet processing include Nacconol DB, Nacconol NR and Nacconol NRSF.

* Alkyl Aryl Sulfonate

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TUFFER CARD CLOTHING, precision-made by TODAY'S production methods, rigidly inspected and double-checked, meets the full requirements of those who know what they want, and want only the VERY BEST!

TUFFER CARD CLOTHING keeps production progressing profitably . . . next time, TURN TO TUFFER!

C-1

Manufacturers of Card Clothing for 90 years
1866-1956

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WORCESTER 8, MASSACHUSETTS
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TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing and Brushes • Top Flats re-covered and extra sets loaned at all Plants • Lickerins rewired at Southern Plants • Hand Stripping Cards

"I want my humidifier heads to keep running whenever humidification is needed," says a mill executive —

Good idea, of course. That's why he likes GRADUMATICS.

Output is controlled automatically to maintain a constant humidity at all times.

Operating with both air and water under pressure, GRADUMATICS are more efficient than gravity type atomizers. Use less air. "Atomization" of moisture is more complete, resulting in quicker evaporation, and longer "blow" of the resulting *vapor*. Excellent performance at all evaporative outputs from 2 to 16 pounds of water per hour.

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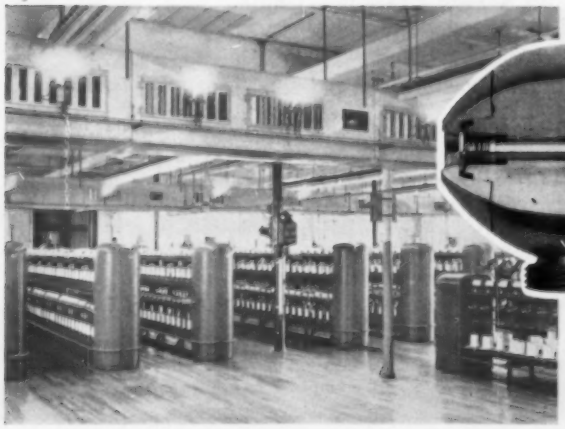
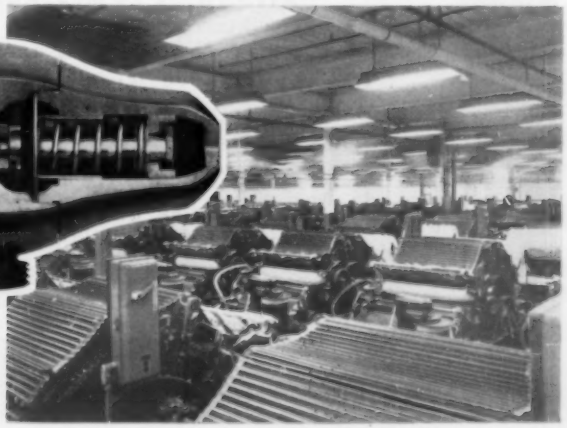
Traveling Cleaner Systems Since 1926

With Airchanger, or as boosters for Central Station System



For direct humidification in all textile mill departments



PREVIEW

of the most powerful advertising and publicity program ever to back a single fiber label

Everyone along the line stands to benefit from this concentrated backing of the Avisco name and the Avisco Integrity Tag. Whether you're converter or retailer, finisher or wholesaler, designer or cutter, your use of a textile fiber of known quality standards and predictable sales appeal will smooth the peaks and valleys of production and sales.

The shift of emphasis of all American Viscose advertising and publicity to the Avisco name in mid-1955 has already made a deep impression upon consumers and has made itself felt among our friends in the trade. Throughout 1956 every ounce of our advertising effort will be exerted in this direction. The impression will grow and grow.

We invite you to grow with the name

AVISCO®

COLORFUL MAGAZINE ADVERTISING on all product groups in **Life, The Saturday Evening Post, Good Housekeeping, McCall's, Better Homes & Gardens, New York Times Magazine, Fortune, Business Week, House Beautiful, House & Garden, Living for Young Homemakers, Vogue** and **Harper's Bazaar.** Over 30 million homes!

NATIONWIDE TV MESSAGES on Arlene Francis' "Home Show" throughout the year. Multiple messages during each peak selling week. Over a million viewers for each message!

TRADE ADVERTISING in important magazines and papers.

MERCHANDISING SUPPORT with versatile display pieces and promotion ideas.

PRODUCT PUBLICITY for home furnishings and apparel.

MORE POWER than ever behind the Avisco Integrity Tag, silent salesman behind your qualified products.

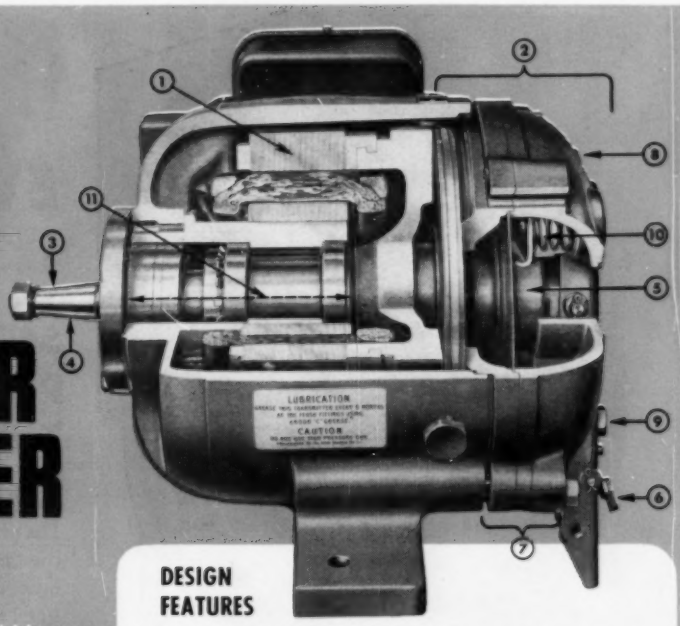
AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N. Y. LA 4-7200

Here it is!

THE NEW DIEHL "BA" POWER TRANSMITTER

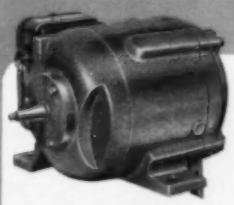
For Draper Looms

Exclusive new design features mean
. . . *consistent* quality production . . .
peak operating efficiency . . . minimum
maintenance, labor and costs!



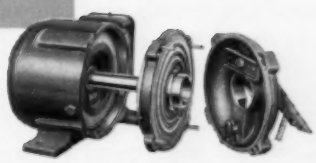
DESIGN FEATURES

*1. High inertia inverted motor provides "stored energy" for smooth, fast starts and positive picking (maximum inertia with minimum size) . . . prevents regeneration.



STREAMLINED FRAME
Easy to clean. Roomy terminal box.

KINETIC BRAKING ACTION
(See Feature 6)



CLUTCH-ACTUATING BEARING—A strikingly new and improved method of mounting. (See Feature 5)

CLUTCH-BRAKE ASSEMBLY—Improved, simplified. Readily removable as a unit. (See Feature 2)

plus these outstanding New Features

*2. **CLUTCH-BRAKE ASSEMBLY**—Improved and simplified for positive action and ease of adjustment. Removes readily as unit for maintenance, without disconnecting motor from loom frame.

3. **PINION**—Free accessibility for installation and maintenance.

4. **SHAFT**—Large diameter, alloy steel, heat treated—assures long life, eliminates need for outboard bearing.

*5. **CLUTCH-ACTUATING BEARING**—New diaphragm mounting for frictionless clutch action, positive radial rigidity of bearing . . . eliminates fretting corrosion . . . means full self-alignment of bearing for maximum life.

*6. **KINETIC BRAKING ACTION**—For rapid, accurate stops. Particularly desirable for center fork detection looms.

7. **CLUTCH AND BRAKE ADJUSTMENT**—Simple and convenient. Provides visible check on brake alignment.

*8. **CLUTCH-SETTING INDICATOR**—Built integral with unit for instantaneous external checking of clutch setting.

9. **SAFETY LATCH**—Built integral with unit. Prevents accidental engagement of clutch.

10. **CLUTCH-LOADING ASSEMBLY**—Internally located, hence tamper-proof.

11. **SHAFT-END BEARINGS**—Arrangement simplified and improved. Two ball bearings and an extra large roller bearing assure maximum life.

*Exclusive feature—patent protected.

The original and only loom power transmitter . . . plus many new and outstanding design and construction features never before incorporated in a loom drive!

Over 40,000 Diehl Power Transmitters have been in continuous operation on DRAPER LOOMS—*most of them more than six years!* The new "BA" Power Transmitter is even *more* compact, more streamlined, *more* efficient and *more* easily installed and serviced than its famous predecessor.

It's an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. Note the exclusive new design features—the clutch-actuating bearing mounting . . . the kinetic braking action . . . the unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns. *Write, wire or phone today for full information.*

Diehl

DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

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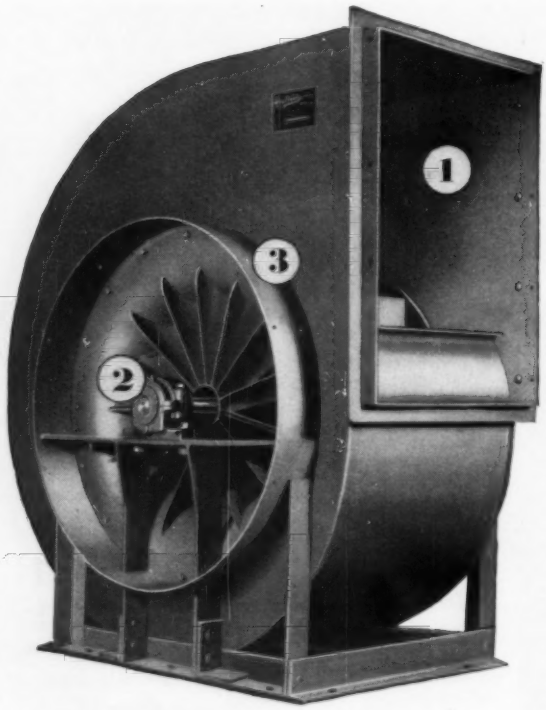


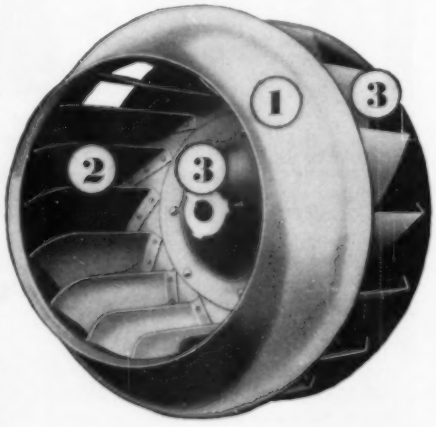
Double Check EVERY FEATURE!

✓ ✓

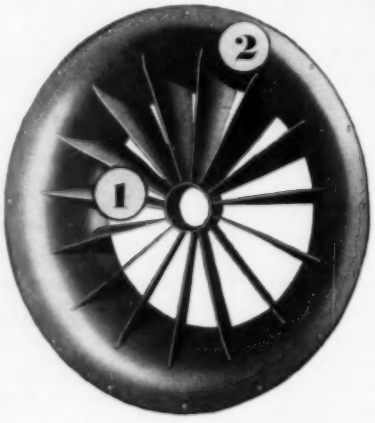
SEE THE MANY EXTRA PERFORMANCE FEATURES THIS FAN ALONE OFFERS

"Buffalo" Type "BL" Limit-Load VENTILATING FAN
The photo at left shows three of the unique features in the "BL" Fan which are giving users more for their money: (1) properly proportioned housing, streamlined for peak efficiency; (2) "Buffalo" self-aligning bearings (choice of sleeve or anti-friction type) for easiest maintenance and longest life; and (3) large, smooth inlet collar for easy duct connection.

ROTOR FEATURES — At right, note the unusual rotor design which has made for exceptional stability and efficiency of performance. (1) Shroud is die-formed to full curvature to match inlet bell for proper air flow in wheel. (2) Backward-curved blades are die-stamped, welded and riveted for maximum strength — and insure stable air flow. (3) The heavy-gauge back plate and extra-heavy hub provide strength where it's needed.



FREE-FLOW INLET Note "Buffalo" inlet guide vanes (1) which assure full rated delivery with minimum turbulence even when inlet conditions are unfavorable. Inlet losses are further reduced by the smooth, die-formed inlet bell (2) which matches the wheel shroud.



These and other features contribute to the famous "Buffalo" "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life — the best value you can recommend in a fan. For full details write for Bulletin F102.

"Buffalo"

BUFFALO FORGE COMPANY

184 MORTIMER STREET BUFFALO, NEW YORK

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

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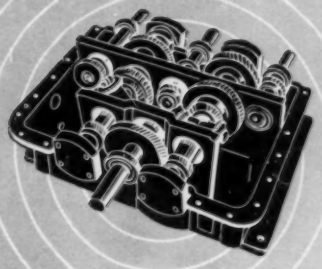
VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

FAIRCHILD SPEED CONTROL

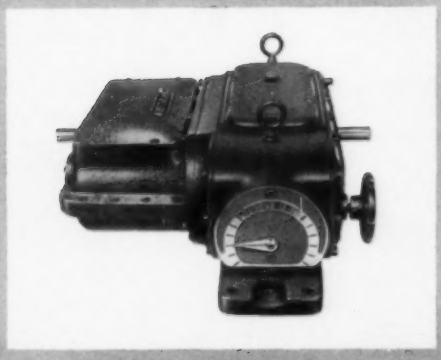
PRODUCTS SOLVE TEXTILE DRIVE PROBLEMS

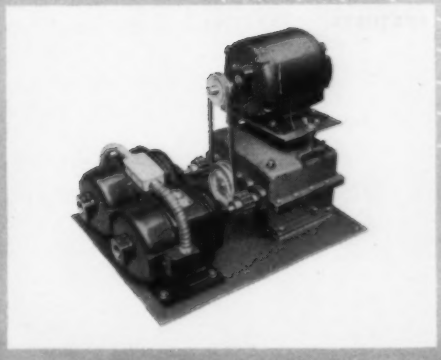
Improved production and quality control in blender, napper, padder, tentering frame and slasher operations.



OUTSTANDING FEATURES

- Wide speed range including zero and reverse
- Maximum efficiency and power utilization
- Full torque at zero speed
- Instantaneous response to control signals
- Control simplicity
- Service-free dependability

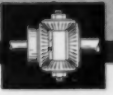




For precision of speed and tension control specify Fairchild Specon products. These compact units provide improved production without the need for costly complex controls. Specon variable speed characteristics enable you to adjust easily for variations in material, build up, shrinkage, gauge differences and moisture content. Highly adaptable, Specon perfected tension control can be tailored to your specifications.

A basic adjunct to today's automated methods, Specon has been adopted by leading American manufacturers. It is available in *Electrical Differential* and *Mechanical Differential* models. Both units, by means of a uniquely designed bevel gear differential, effect optimum speed control through wide ranges *including zero and reverse*. Where extremely close control is required within a narrow speed band, Specon Mechanical Draw transmissions will maintain accuracies of speeds and settings not previously available to industry.

Backed by the technical resources and know-how of aviation's pace-making Fairchild Engine and Airplane Corporation, the Speed Control Division offers advanced engineering in variable speed application. Speed Control will be pleased to analyze your drive problem. Write today to Dept. T.



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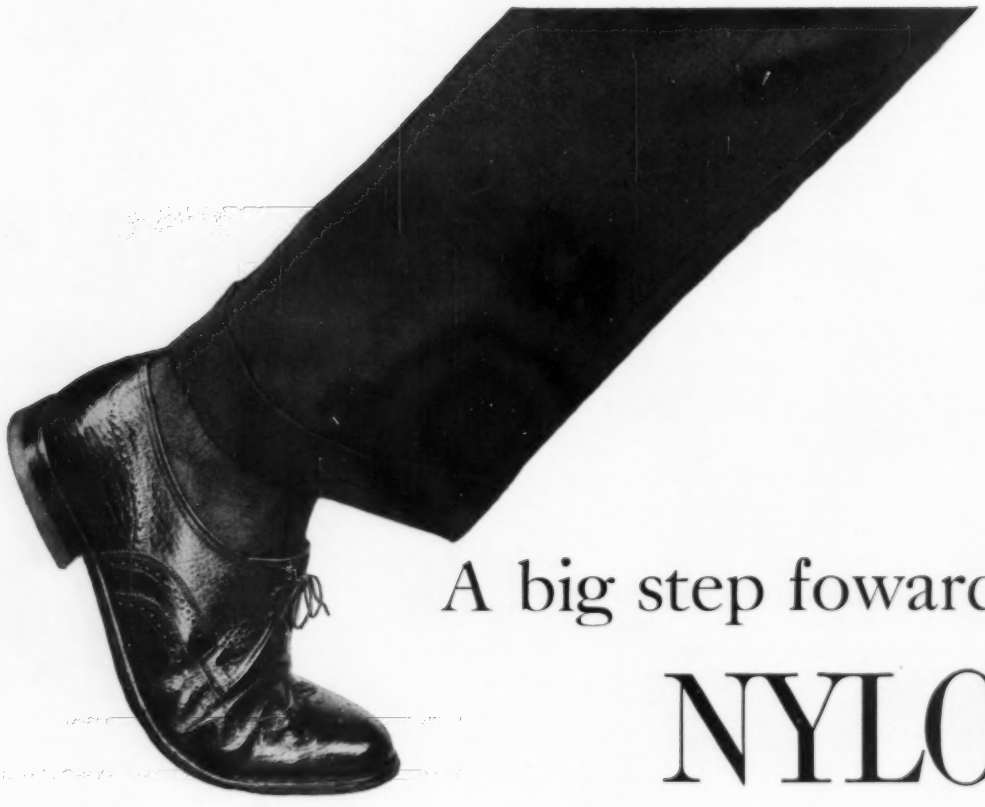
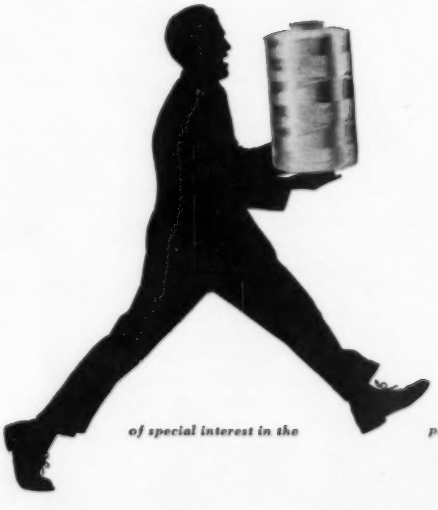


A big step foward for NYLON



Nylon Heavy Yarns are of special interest in the production of automobile

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industrial textiles...

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OF ALLIED CHEMICAL'S

*caprolan**

Tensile-Tough Nylon

Now Available: a completely new class of durable textile yarns for industrial fabrics and mechanical goods where toughness and high impact strength are essential requirements. Called Caprolan *tensile-tough* nylon, the heavy yarns are now being produced in 2,100, 2,500, 5,000 and 15,000 total denier. Eventually they will be produced in the complete range of 2,000 to 50,000 total denier according to your specifications.

Caprolan *tensile-tough* nylon heavy yarns have a *minimum* average standard tenacity of 6.5 grams per denier, and retain 90 per cent of their strength in the wet state. Initial put-ups are on ten-pound parallel packages and contain *nominal* twist. These packages create no twisting problems in the mill and eliminate the need to ply several ends of smaller deniers to obtain a higher total effect.

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safety belts, hoses, heavy duck, conveyor fabrics, filter fabrics, industrial slings, webbing, tapes, cords, seine twine, belting and rope.

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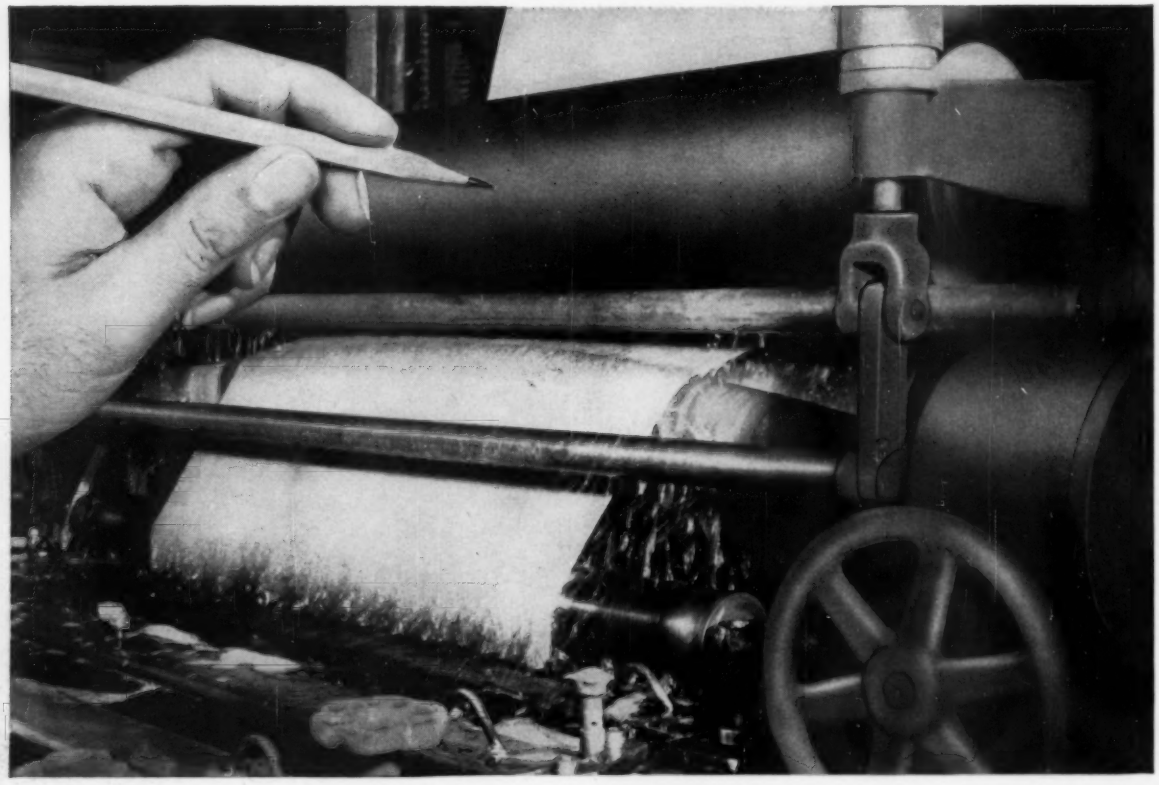

Better Finishing with MANHATTAN Rubber Covered Rolls

Cracking, hardening, corrugation and separation of the rubber cover from the metal core mean trouble for textile rolls . . . losses in production schedules and product quality. Manhattan roll specialists have eliminated these causes of roll failure and costly machine downtime with Manhattan Rubber Covered Rolls. An exclusive process provides an inseparable bond of rubber to metal. Manhattan Rubber Covered Rolls last longer.

Every modern facility is available at Manhattan for the development and production of roll coverings to meet your specific requirements. Precision roll grinding and vulcanizing facilities insure accuracy of dimension within .002". Manhattan Rubber Covered Rolls assure permanent, uniform and correct density for uninterrupted high-speed production under all working conditions. The workmanship, care of handling and custom-tailored roll covering you can depend on at Manhattan reflects over 60 years experience in serving the needs of the textile industry.

Let an R/M roll engineer show you how you can improve production quality-wise and cost-wise . . . get "More Use per Dollar" . . . with Manhattan Rubber Covered Rolls.

RM 616

ROLL COVERING PLANTS AT PASSAIC, N. J. — NEENAH, WIS. — NORTH CHARLESTON, S. C.

RM

MANHATTAN RUBBER DIVISION—PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

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GARNET RED

one of the colors shown in the

FALL 1956

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COLOR NEWS LETTER

The Franklin Process Color News Letter for Pre-Spring 1957 will soon go to press. Keep up to date in color trends. Send for your copy NOW.

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DOW

In their brief but exciting history, chelating agents have encountered reactions ranging from scoffs and disbelief to overzealous exaggeration about their application. But the air is clearing. Already they are serving as important tools in many industrial processes. This is the beginning of a series on chelating agents designed to further clarify what they are, what they will do—and won't do.

The Chemistry of Chelation: Part I

Chelation defined · Example of the reaction · Variety of applications · Future of chelating agents

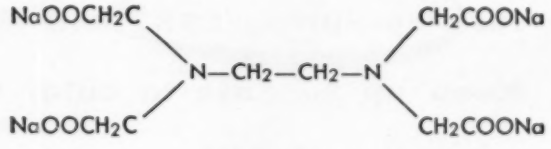
Polymerization of synthetic rubber controlled . . . soap kept white and sparkling on the dealer's shelf . . . textiles bleached and dyed with permanent uniform colors . . . pharmaceuticals stabilized. Unrelated reactions? Certainly. However, all are accomplished by a group of closely related chemicals called chelating agents. How do they work? Well, it's not magic, but chemistry—in a way, fairly basic chemistry. But let's begin at the beginning.

What Is Chelation?

Let's look at the word chelation. It is derived from the Greek word *Kelos* which means "claw." Simply stated, a chelate is a claw which holds a metallic ion inactive in solution. Chemically stated, chelation is a chemical reaction in which polyvalent metallic ions are reacted with organic reagents (chelating agents) to chemically inactivate these polyvalent metallic ions in the form of an extremely stable, water-soluble chelate.

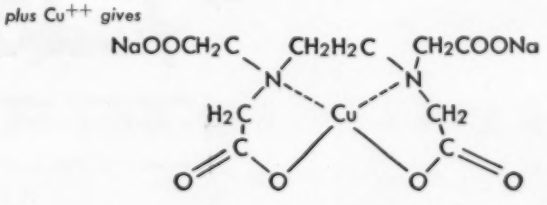
Typical Reaction

If we examine a typical reaction, the process of chelation becomes quite clear. Let us take, for example, the chemical structure of Versene®, one of the Dow chelating agents.



Versene

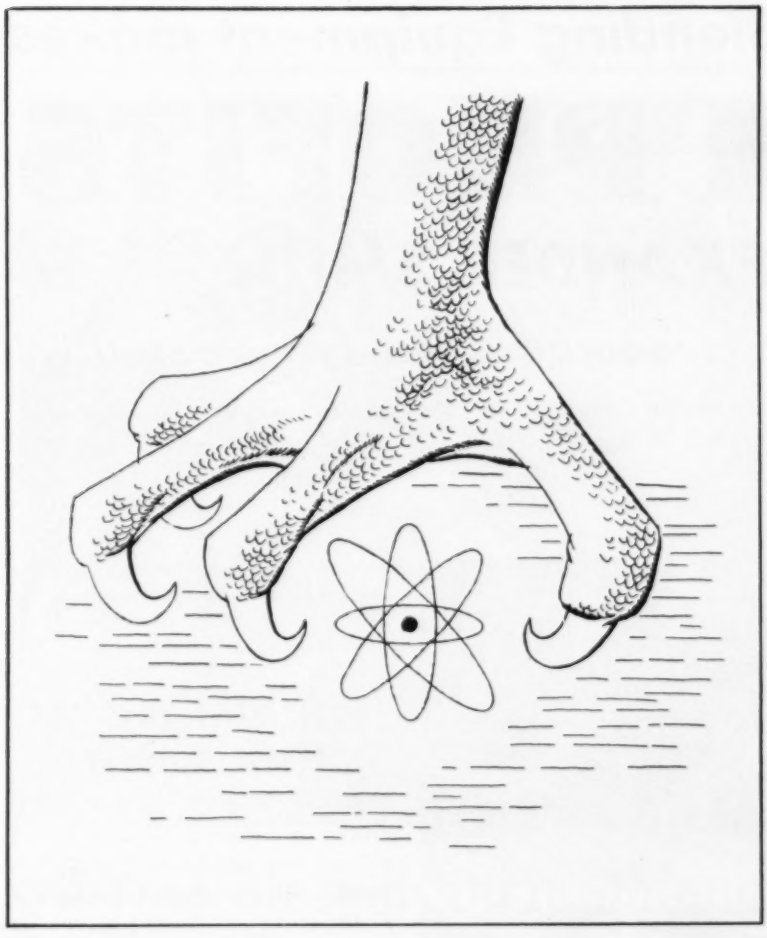
Now, if we place the Versene in a solution which contains free polyvalent ions of copper (Cu^{++}), the following is the result:



Versene Copper Chelate

The resultant compound is Versene copper chelate. The copper ion has become a member of an inner ring structure in the molecule. The result?

For more information, write direct or use Reader-Service post card.



It is inactivated. It cannot react with soap to cause darkening and stain during storage.

It can't cause breakdown of pharmaceuticals. It can't cause any trouble anywhere because it is locked in the Versene claw. It will stay locked in unless it is desired to reverse the process. This reverse action is used in polymerization of synthetic rubber—ions of iron being released at a predetermined rate by the chelate.

Variety of Applications

The most important thing, however, is that this "claw" property of chelating agents such as Versene makes it possible to solve a multitude of processing problems in industry. They've been used in tanning leather and tenderizing peas.

They can descale boilers, soften water and cure acute lead poisoning. The number of current industrial and medical applications is large, but the potential in unexplored areas is enormous.

And the Future?

The future of these products will hinge on the imagination and insight of chemists and engineers, of production men and purchasing agents, in nearly every industry. Wherever metal contamination poses a problem or wherever controlled introduction of metal ions is desirable, these chemicals warrant investigation.

Versene and other Dow chelating agents won't solve them all. Chelation is not a panacea. It will work chemically in some areas—it will fail in others. However, it is Dow's intention to assist in every way in the uncovering of processes in which chelating agents can be profitably used. Inquiries on your company letterhead will be handled with dispatch. We will be pleased to provide information and technical assistance. Write to Technical Service and Development, Dept. SC 900K, THE DOW CHEMICAL COMPANY, Midland, Michigan.

The next three topics in this series

PART II May	The Versene and Versenol® series of Dow chelating agents (what they are, strength and stability features—Versenol lower cost, less strength). Also—how chelating agents are specified (product performance versus chemical composition).
PART III July	Specific chelating agents for specific applications. Processing of textiles (strength and stability of Versene 100 for stabilization of hydrogen peroxide in bleaching ranges—Versene 100 strength and stability—Kier boiling; Versene S®, Versene T® for iron in presence of free caustic.
PART IV September	Further discussion of the use of chelating agents in the processing of textiles (production economies possible—weak versus strong chelation depending on process and material—improvement in appearance and durability of fabric).

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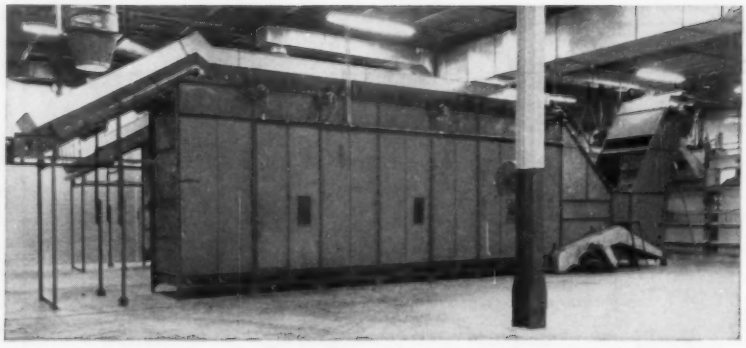
How Proctor Blending Equipment makes

MORE PROFITS

at ALEXANDER SMITH

"manufacturing costs reduced...quality increased..."

"We think it would be an opportune time to discuss the very fine equipment you have furnished us in Greenville and Yonkers, and for us to show our appreciation of your efforts to reduce our manufacturing costs and to increase our quality..."—writes Alexander Smith's Director of Engineering. For today, improved *automatic* blending of wool or synthetics is a cost-saving reality at Alexander Smith.



PROCTOR WEIGHING FEEDS at Alexander Smith precision weigh the stocks laying them in layers, which are picked before going to the roller distributor.

EQUIPMENT PAYS FOR ITSELF QUICKLY

Regardless of the size of your mill, a Proctor & Schwartz blending system will not only pay for itself quickly in direct labor savings, but also in the production of better yarns at greater profits!

THE PROCTOR ROLLER BLENDER distributes the precision-weighed stock, re-lays it in layers and then breaks it down from top to bottom keeping variations in the fibers blended under 1½%. The second unit is on color blending and assures uniformity of shade in their carpet yarns.

QUALITY PERFORMANCE GUARANTEED!

Blending is just one of the many fiber processing operations of every conceivable type which have been pioneered by Proctor and Schwartz—world's largest and most experienced producer of blending machinery. And, as always, every piece of Proctor blending equipment, from the smallest pilot unit to the largest system, comes to you with the assurance of quality performance—as guaranteed.

Proctor

PROCTOR & SCHWARTZ, Inc.

Manufacturers of Textile Machinery and Industrial Drying Equipment
Philadelphia 20, Pa.

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- AUTOMATIC BLENDING SYSTEMS
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- CARPET DRYERS

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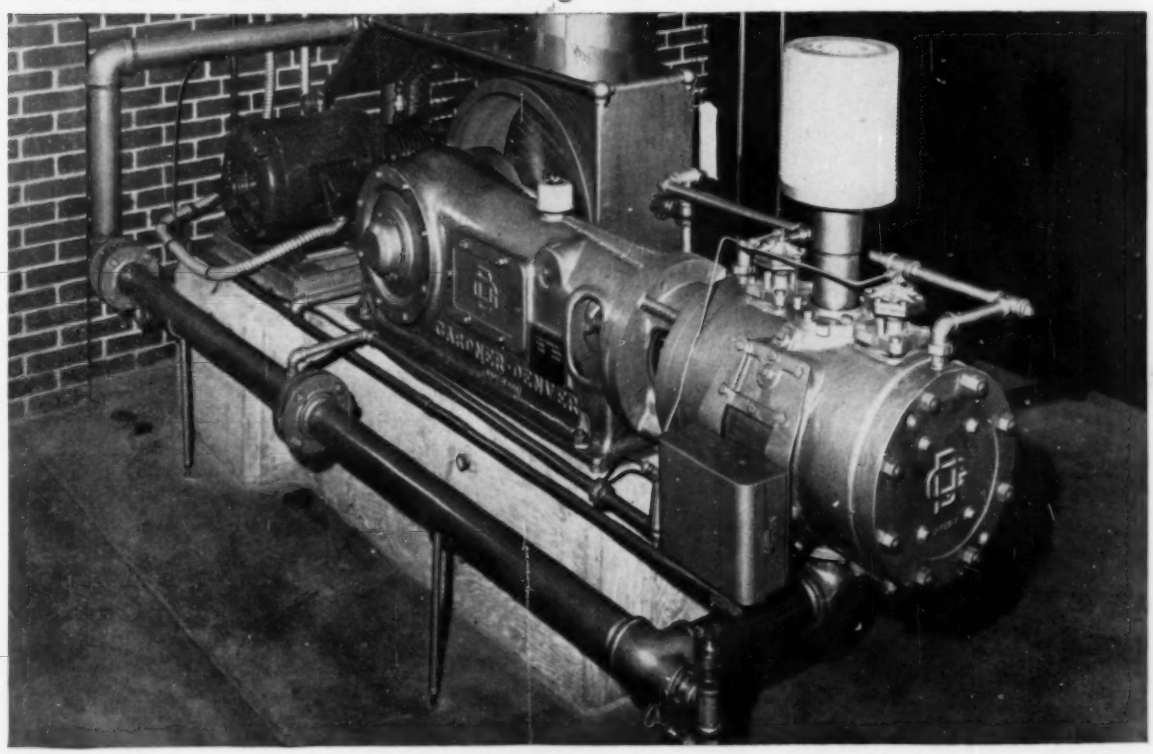

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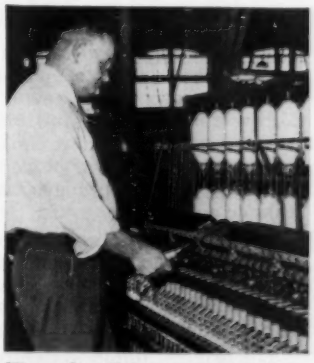
Pure, oil-free air that's safe for textiles, plastics, foods, beverages, automation instruments. Low-cost air that's economical for maintenance tools and regular plant operation.

You get *both* from the Gardner-Denver CRX Carbon Piston Compressor.

Self-lubricating carbon, used for pistons and other parts, does away with any need for oil in the cylinder. Yet, user reports show that cost per cubic foot of air compressed by the CRX matches usual compressed air costs. There's no maintenance penalty—no need for two separate compressed air systems in your plant. Send for Bulletin CRC-10 today.



The safe, efficient way to remove loose lint from cotton spinning machinery—the Keller Tool Roll Picker. Write for complete details.

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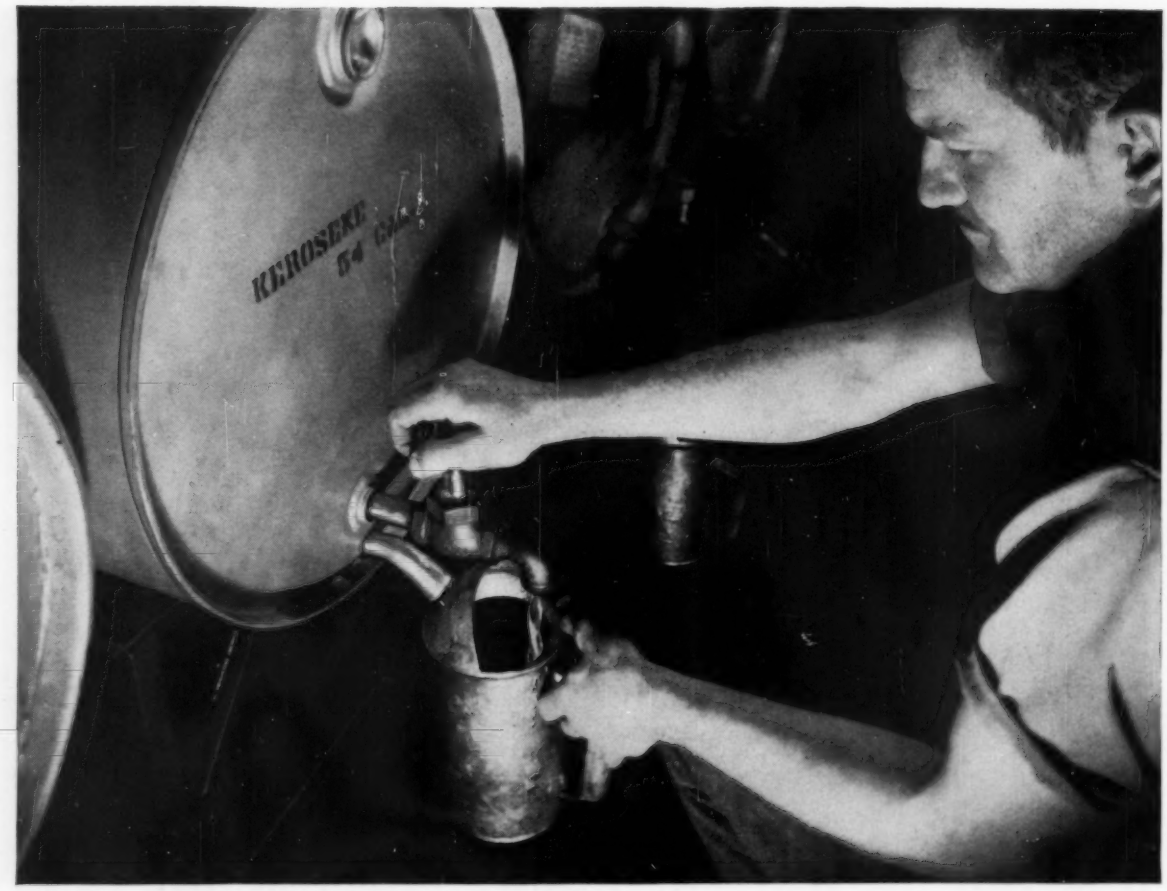
Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.; Louisville, Ky.



This plant is safer since they put these Crane valves on hazardous fluids

THE CASE HISTORY—How safely you handle hard-to-hold combustible fluids can depend on the valves you use. Read how a large Midwestern printing and binding plant, by changing to the right valves, encouraged employee care and safety while stopping hazardous leakage and waste.

The plant's supplies of kerosene, naphtha, benzol and similar fluids were stored in a fireproof room. But the danger was in the constant dripping and leakage at the tanks.

The original pump apparatus on the drums was discarded and ordinary valves were installed for drawing supplies. Still the hard-to-hold fluids dripped and leaked—through the valve packing and stuffing box, and at the seats. Fluids were lost . . . the high maintenance costs continued . . . and the unsafe conditions remained.

Changing to Crane No. 130 brass valves on the drum outlets stopped all previous trouble.

To-date they've given more than a year of leak-free, maintenance-free service. These valves have special features for handling light oils, gases and volatile fluids.

Underwriters' Laboratories approved for LP-gases, Crane No. 130 valves have a composition disc soft enough for tight seating, yet stiff and resilient to take hard wear. The disc, cemented in its holder, prevents around-the-disc leakage. The stuffing box with molded asbestos packing is extra deep for durable stem sealing.

No. 130 valves are typical of Crane quality and value, and the complete selection you have in the Crane line in valves and fittings for every flow control need.

You'll find that specifying and ordering Crane materials will lead to lower ultimate costs for your piping equipment.

CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

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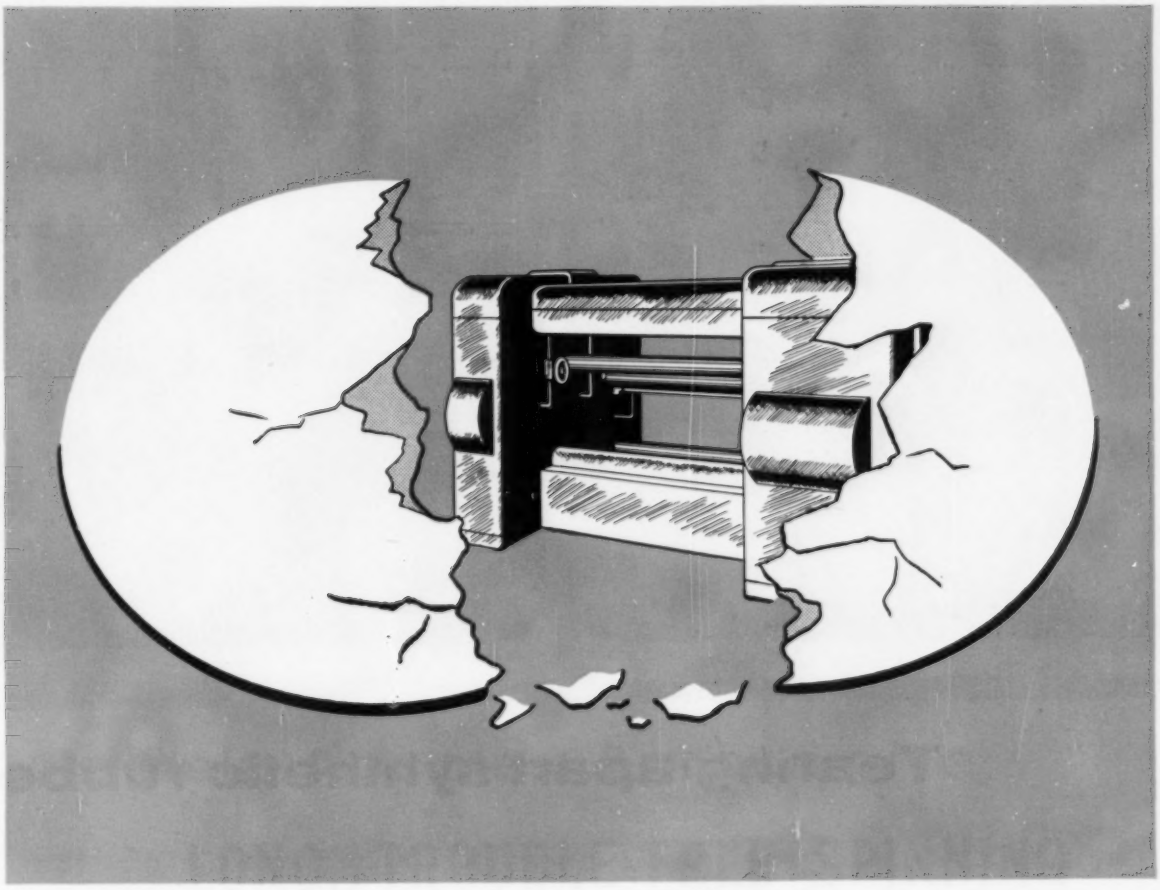

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Bring the nest-egg of your idea to the Developmental Engineering staff at Butterworth — and leave it with them to be incubated and eventually hatched. For example, suppose you have an idea for a brand-new process. Butterworth will go to work on that idea, studying it, analyzing it, researching it. They'll shape and mold it, and give it the breath of life.

Result: Complete processing equipment that translates your brain-child into a low-cost, high-profit end result.

Is there an unbridged gap between an idea of yours and the process, product or machine you need? Then call on Butterworth. At Butterworth, your idea remains yours alone. Complete secrecy guards each step of development. Butterworth engineers become your engineers. Butterworth men, machines and manufacturing skill go to work for you.

Got an idea? That's all we need to start with!

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Machine Building
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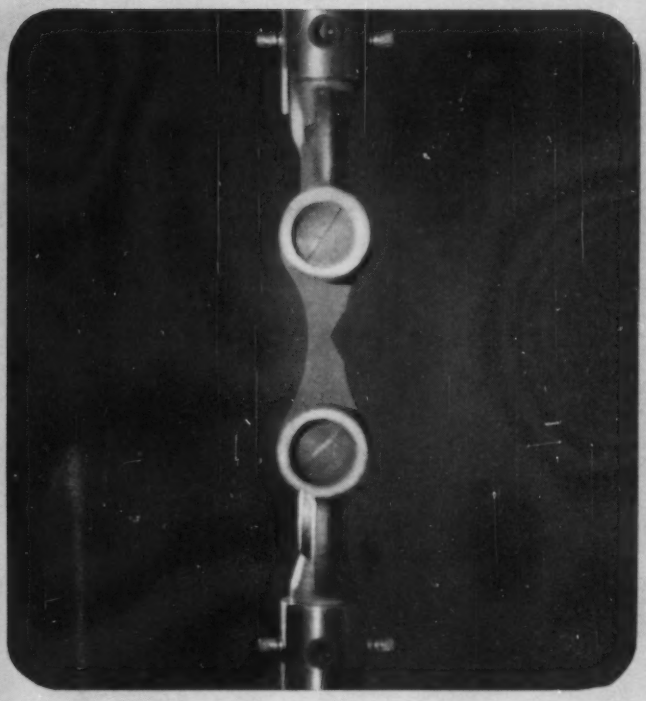
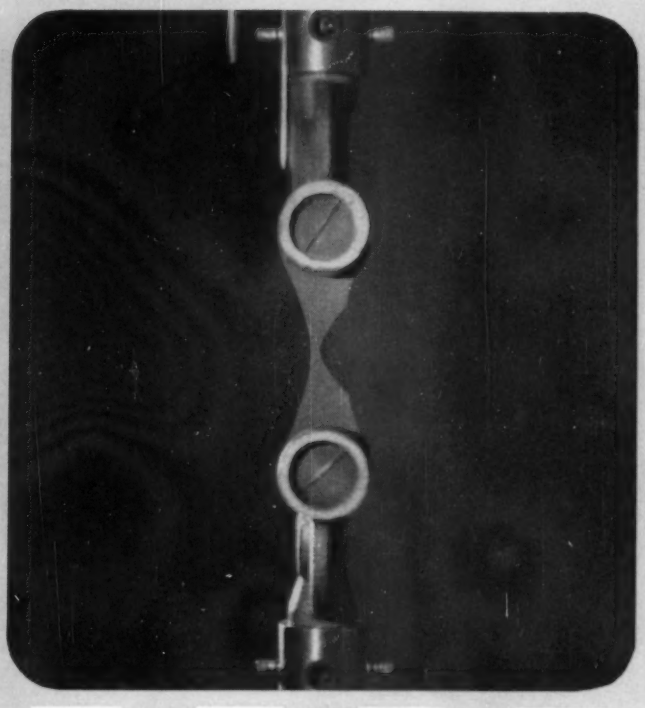
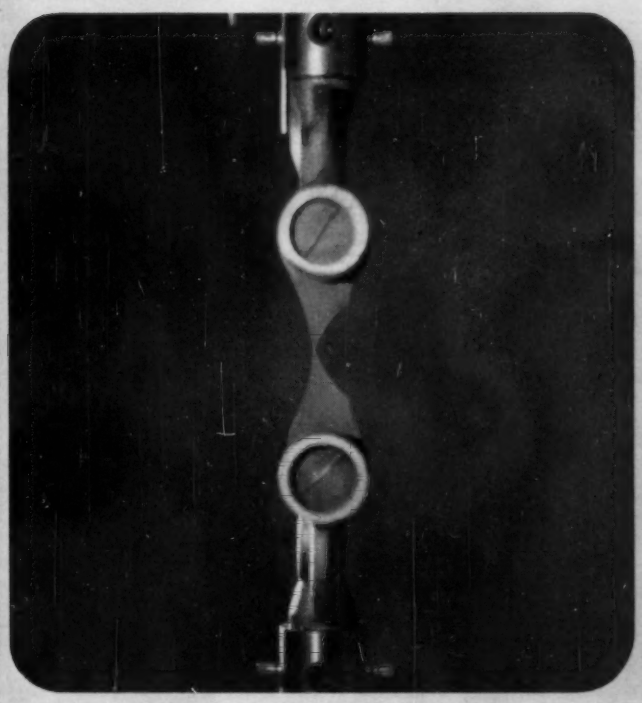


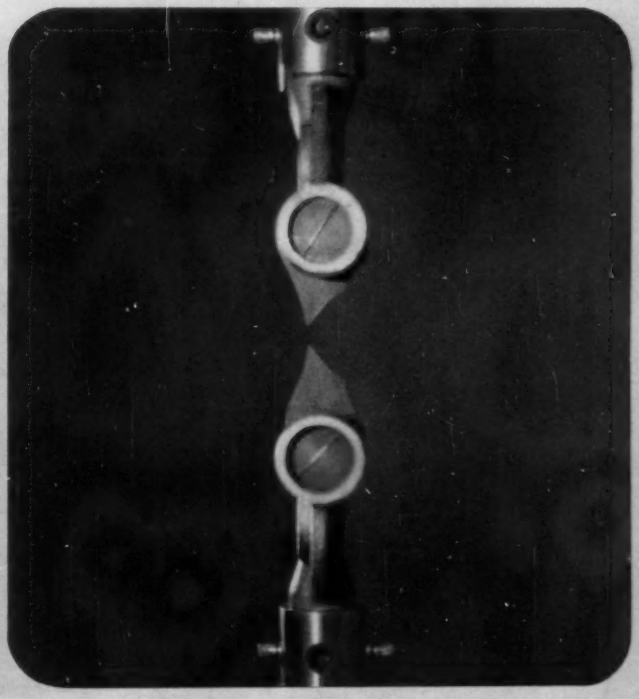


Tearing apart synthetic rubber

Accotex NO-7075 Aprons give you long, trouble-free operation on all types of double-apron frames.

Super-flexible NO-750 Apron insures smooth drafting action and good yarn control on single-apron equipment.





. . . to help Accotex Aprons give

LONG, TROUBLE-FREE SPINNING

Tests like those shown above help Armstrong chemists build even more strength, toughness, and tear-resistance into the Accotex® Aprons you use.

The pictures—taken with a high-speed camera—show a sample of a special synthetic rubber compound being torn apart. The testing device records automatically the force required to stretch the rubber beyond its elastic limit.

This is just one of many research techniques that are used continuously to make sure the Accotex Aprons you buy will meet the exacting demands of today's single- and double-apron high-draft equipment.

Obviously, development tests like these go far beyond conditions that are likely to be encountered on your frames. But this specialized research—matched by the most advanced production facilities—is your assurance that Accotex Aprons will spin top-quality yarn year after year.

No matter what type of equipment you're using, no matter what kind of fiber or blend you're spinning, there's an Accotex Apron specially engineered for your spinnning needs. If you're not already using these aprons, why not arrange for a test frame next time your Armstrong man calls?

Write today for the booklet, "Armstrong Textile Roll Coverings and Mill Supplies." It gives information on Accotex NO-7075 and NO-750 Aprons and other Armstrong textile supplies. Address Armstrong Cork Company, Industrial Division, 6402 Dauphin St., Lancaster, Penna.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

When your Processing calls for:

SOAP

call on this All-Star Cast!

OLATE

A neutral, thin-flaked soap containing 92% anhydrous soap. Made from carefully selected and highly refined oils of approximately 12°C titer. Highly resistant to oxidation, rancidity and odor development. Olate dissolves more readily, rinses more freely and forms more fluid solutions than medium or high titer soaps. Excellent for scouring and fulling woolens and worsteds. Equally efficient for processing other fibers.

NONPAREIL

A neutral, light-colored flake containing 92% anhydrous soap. Made from high-grade, medium titer stocks. An efficient all-purpose soap which can be used alone or with alkalies for processing all types of textile fabrics. Nonpareil forms fluid solutions with greater viscosity than Olate solutions of equal concentrations. Readily soluble and free rinsing. Good scouring properties at all temperatures. Widely used for fulling and scouring.

AMBER
FLAKES AND GRANULES

A light-colored, neutral, top-grade 42°C titer soap made from carefully selected fats exceptionally resistant to oxidation, rancidity and discoloration. The standard in the textile industry for tallow-type soaps. Contains 88% anhydrous soap. Amber builds an unusually sturdy suds which performs efficiently where heavy-bodied fulling solutions are desirable.

IVORY
CHIPS AND BEADS

A medium titer, neutral, white soap containing 90% anhydrous soap. Made from highest quality refined oils and fats. Dissolves readily, producing quick, stable suds at all temperatures. Very resistant to oxidation and discoloration when left in textile fabrics or when used as a textile finish. Excellent for processing all types of fibers.

Your jobber has stocks of these fine, time-tested Procter & Gamble textile soaps. Use them with confidence.

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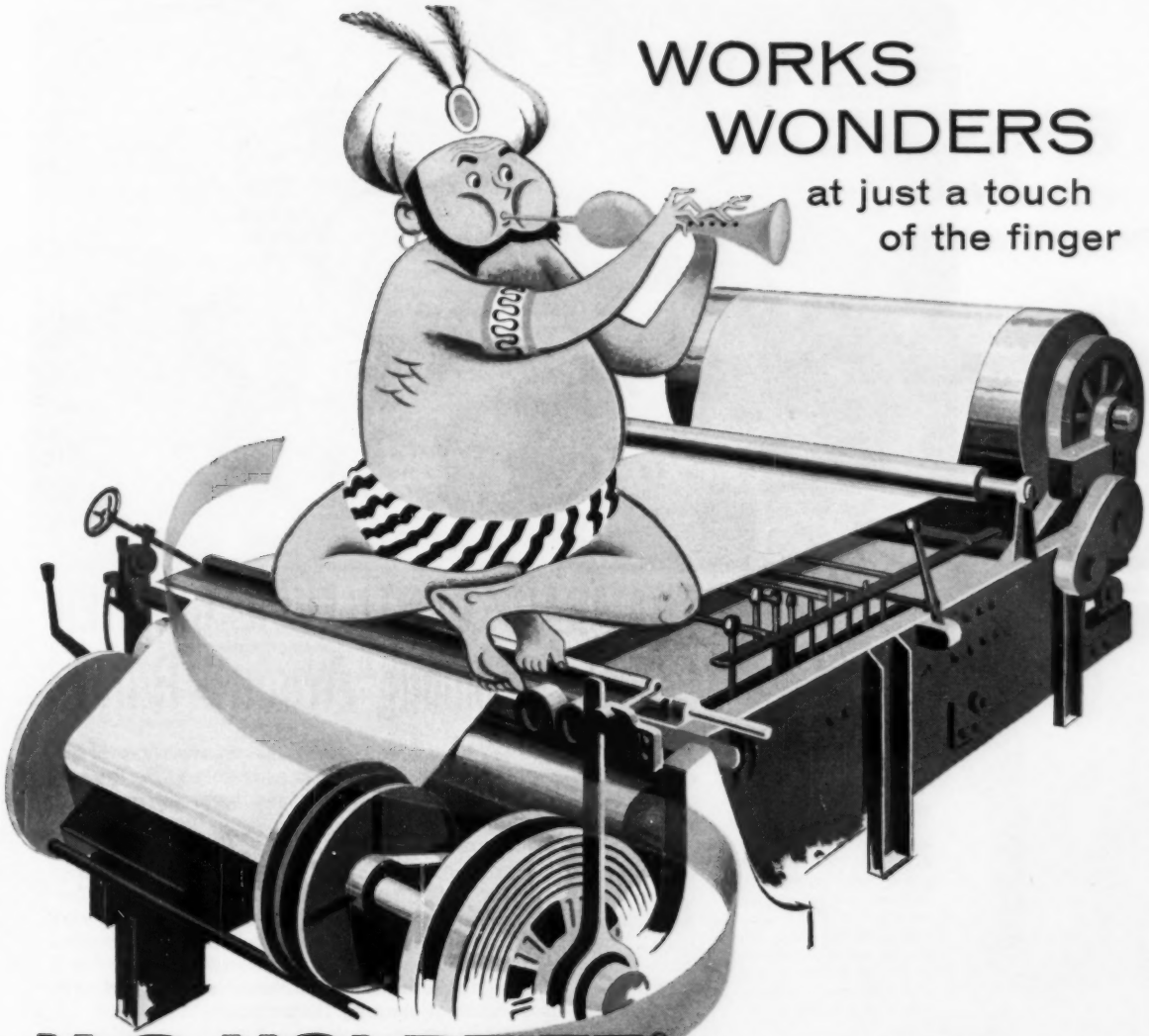

U.S. HOLDTITE® pressure-sensitive tape

Applied with just finger pressure, U.S. Holdtite is an *indispensable* worksaver for the textile man. It's a wonder at fastening rolls, at holding ends after slashing, or holding cloth to table in screen printing. Among its *many* other uses are:

- Reinforcing material before applying eyelets.
- Protecting race plate covering.
- Covering pitch band loom reed. ● As slasher tape.

U.S. Holdtite Tapes *never* come loose by themselves; they must be removed. Every day, industry calls upon these tapes to perform new wonders. We welcome word from the vast army of pressure-sensitive tape users, telling of uses to which they put these tapes.

U.S. Tapes are available through any of the 27 "U.S." District Sales Offices. Or write us at Rockefeller Center, New York 20, N. Y.

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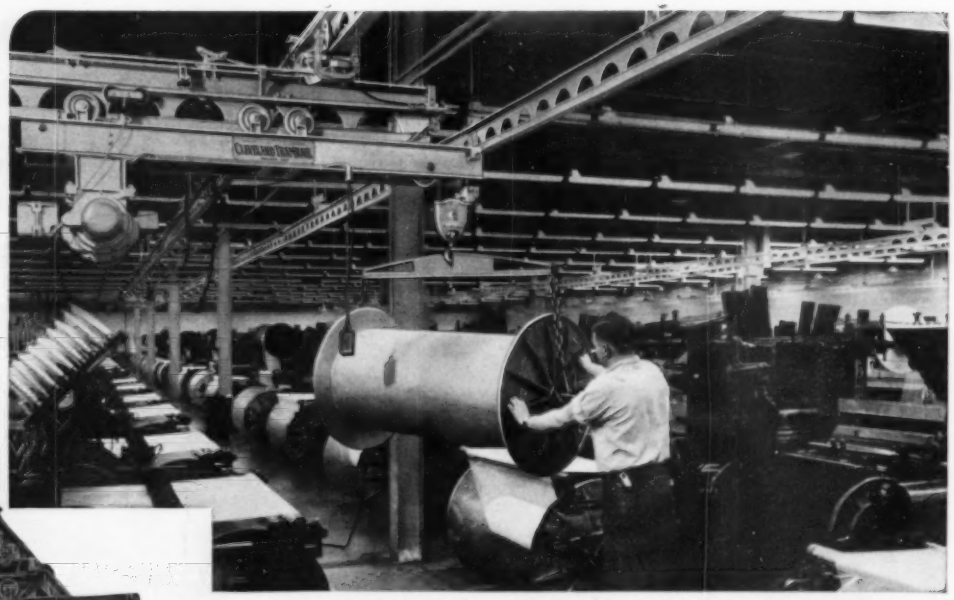


Despite the columns in this aisleway, beams weighing up to 1500 lbs. are easily doffed from the creels of the looms on either side of the aisle with the cantilever carrier on the Cleveland Tramrail transfer crane. The carrier can be transferred to any of a large number of bridges serving the entire weave room.

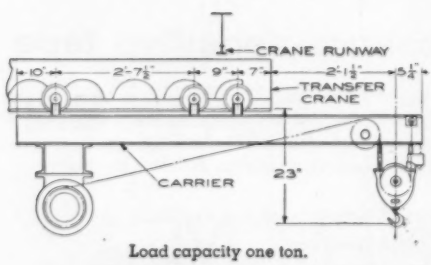
TRAMRAIL CANTILEVER CARRIER Provides Handling Around Pillars

A problem in loom beam handling in the weave room of the Gerrish-Milliken Mill in Pendleton, S. C. was solved by the use of a specially designed carrier with a cantilever arrangement that permits the unit to handle loads beyond the end of the crane on which the carrier operates.

The room was originally planned to accommodate a number of rows of looms with one alley serving every two rows. However, the roof-supporting pillars were so located that it was impossible to handle the heavy beams from the looms located along one side of some of the alleys with a standard crane. Such a crane, long enough to permit a hoist carrier being spotted over the loom creels, would not clear by the columns.

The Cleveland Tramrail crane designed for this application was made short enough to pass the columns. The carrier, with its extension feature, permits the hoist to reach out as much as 2'-1½" beyond the end of the crane. When it is necessary to travel the crane for some distance on its runway, the carrier is moved in sufficiently from the crane end to permit safe clearance of the columns.

This special unit gave the mill more freedom in working out the loom layout without regard for the location of the columns. It is one example of the many ingenious designs developed by Cleveland Tramrail for providing efficient overhead materials handling.



Load capacity one ton.

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Century

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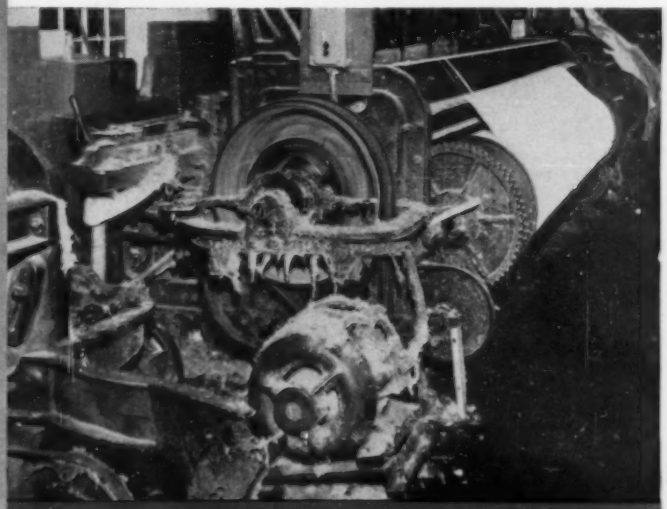
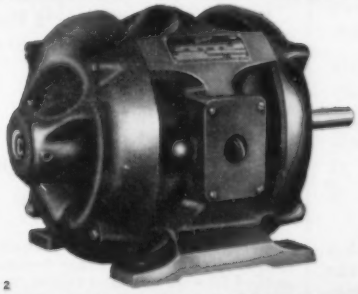
TEXTILE MOTOR

Clears itself of clogging lint!

for dependable service on this big 120" loom

- Big, wide, obstruction-free ventilating passages let lint flow through. Strong-blasting integral cast aluminum rotor fans keep vital parts lint-free
- The clean, cool ventilation of Century Performance-Rated Textile Motors means extended insulation life... deliver more dependable operating hours in your plant
- You'll find a Performance-Rated Century Motor to fit your job in Century's broad and varied line. Ask for Textile bulletin 14-193, page 1. Other bulletins available on AC or DC Motors... ⅛ to 400 H.P.—Drip Proof, Splash Proof, Dust Proof, Explosion Proof





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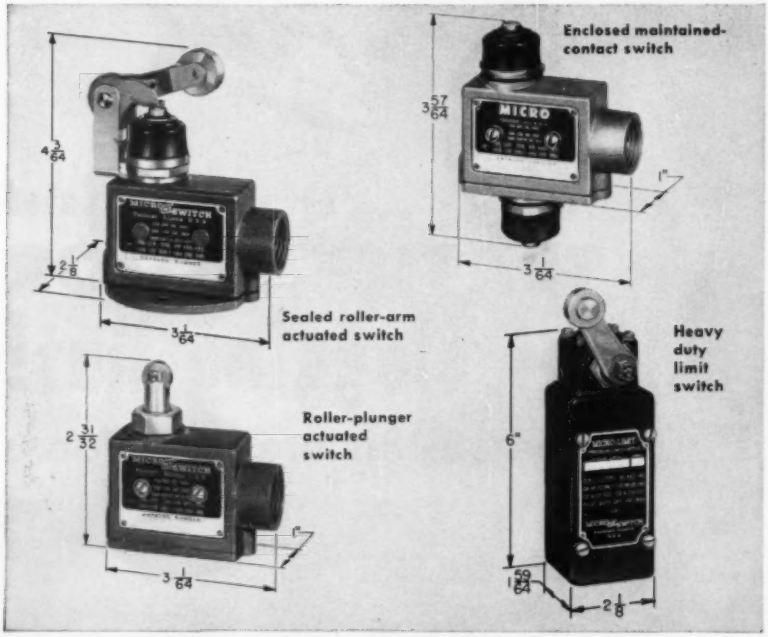
MICRO precision switches

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN



These MICRO precision switches make textile operations safer—more productive

Whether you are a manufacturer of textile equipment or a plant operating man it will pay you to know ALL about MICRO precision switches.

The switches shown here were selected by plant engineers to make the operations shown at the right safer, more automatic and more productive. They are but a few of the many MICRO precision switch types now in use in hundreds of textile plants.

Sealed Roller-Arm Actuated Switch: For use with mechanically operated cams or slides. Elastomer boot protects the switching unit against effect of liquids, dust or other foreign substances. Roller arm is field adjustable through 360 degrees horizontally and 225 degrees vertically.

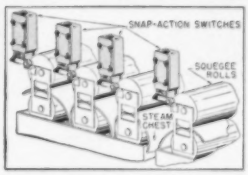
Enclosed Maintained-Contact Switch: For applications which require sustained contact after the actuating force has been released. A reset plunger enables the switch to be reset for succeeding operations. Elastomer boot prevents entrance of dust or moisture through the actuating mechanisms.

Roller-Plunger Actuated Switch: Designed for operation by cams or slides whose approach is in the same direction as the longitudinal axis of the switch. Rugged overtravel mechanism insures accurate repeat ability of the enclosed switching unit even when subjected to continual impact.

Heavy Duty Limit Switch: Ruggedly housed to withstand high humidity and linty atmospheres of textile operations. Roller arm actuator is field adjustable through 360 degrees at intervals of 0.4 degrees to any of 870 positive lock positions.

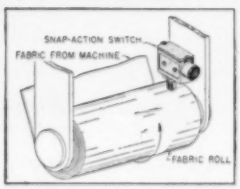
For complete information on switches for textile equipment write for the name of the distributor nearest you. MICRO SWITCH field engineering is available at your nearest branch office.

Saves Fabric and Production Loss on Bleach Range



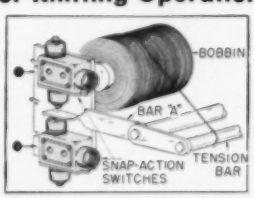
MICRO heavy duty limit switches are installed on bearing which raises—with roll. As cloth raises the switch stops the range, preventing fabric and production losses.

Controls Roll Size on Circular Knitting Machine



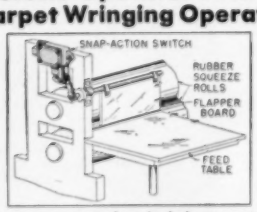
Roller-plunger actuated switch is operated by the roll when the fabric being made or processed reaches the desired roll size. Switch then stops the machine automatically.

Keeps Proper Yarn Tension for Knitting Operation



Two enclosed maintained-contact switches are used to prevent breakage of yarn due to either too high or too low tension. In either case Bar A contacts one switch or the other and shuts off the machine.

Protects Operator's Hand in Carpet Wringing Operation



Roller-arm actuated switch is operated by cam to shut off rolls in case baffleboard is pushed forward enough to catch operator's hand in the rolls. Carpet is positioned in the nip of the rolls by hand but machine will not operate until hands are withdrawn.

SEND FOR CATALOG 83
For information on a wide variety of enclosed switches.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

JENKINS Fig. 106-A

The FIRST
Renewable Composition Disc
BRONZE GLOBE VALVE
150 lbs. Steam 300 lbs. O.W.G.
⅛ in. to 3 in.

Making a Work Horse a Champion

Take a Fig. 106-A apart. It's easy to see the reason why it's the "champion" of disc-equipped Bronze Globes. Every part, from heatproof handwheel to pipe ends, reflects the design and construction skill of generations of Jenkins Valve specialists.

Jenkins Bros. introduced the first renewable composition disc Globe . . . is still the only manufacturer of both valves *and* discs.

Fig. 106-A not only looks better — it proves out better in performance. In any comparison, its long-life, low-upkeep record has always set the standard. That is the true measure of valve cost — and it is the reason why industry's shrewdest buyers will settle for nothing less than Fig. 106-A quality.

The Fig. 106-A "family", with interchangeable parts, provides Globe, Angle, and Check patterns to meet 90% of average valve needs.

Ask your Jenkins Distributor for full information, or write: Jenkins Bros., 100 Park Ave., New York 17.

JENKINS
LOOK FOR THE JENKINS DIAMOND
VALVES
SINCE 1864 TRADE JENKINS MARK
Jenkins Bros

SOLD THROUGH PLUMBING-HEATING AND INDUSTRIAL DISTRIBUTORS

Over 20 years of service prove SKF tension pulleys and spindles give *trouble-free* operation

Dependability is the word for SKF-equipped spindles and tension pulleys. Spindles installed in 1928, and pulleys installed in 1934, are still in operation today—with years of useful life still remaining.

Representative of the long service and *low replacement ratio* are the records of one southern mill, accurately kept for the past 17 years. Here, only one bolster was replaced for every thousand in operation during this entire period.

Other mills reporting on the SR-type tension pulley, state that virtually no replacements were necessary on this pulley over similar years of service.

Speaking for themselves, these facts remind you to specify SKF—the original and most dependable anti-friction tension pulley and spindle. 7656

SKF INDUSTRIES, INC., Philadelphia 32, Pa.—*manufacturers of* **SKF** *and* HESS-BRIGHT® *bearings.*

SKF®

TEXTILE BEARING SPECIALTIES

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HUNTER FLEXREEL WASHER

WITH UNIQUE CLOTH TENSION CONTROL

PUTS PROFITS IN COTTON KNIT GOODS

WASHING AT... *Carter's*

HUNTER FLEXREEL WASHER AT CARTER

Washing cotton knit goods under exacting test controls, Carter's shows thousands of dollars in production savings at its Barnesville, Ga. underwear and sleepwear plant. Looking at the long-run manufacturing picture, this is what Carter gains: speeds up to 200 yards a minute . . . reduction in kier time . . . elimination of extra kiers. And, because it is a Hunter machine, reduction of down time to an absolute minimum.

In addition to the Hunter Flexreel Washer, like the one at The William Carter Co., Hunter makes a Conereel Washer with air operated guide pins which permits tension-free processing of a wide variety of fabrics such as cotton knit goods, lawns and heavy bark cloths. Fabrics are handled at speeds up to *300 yards a minute* . . . preserving full fabric strength without surging or seam breakage.

PUT *PROFITS* IN YOUR WASHING OPERATION WITH THE HUNTER FLEXREEL WASHER

JAMES HUNTER MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER ....IT'S DEPENDABLE

plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair.... rapid parts delivery

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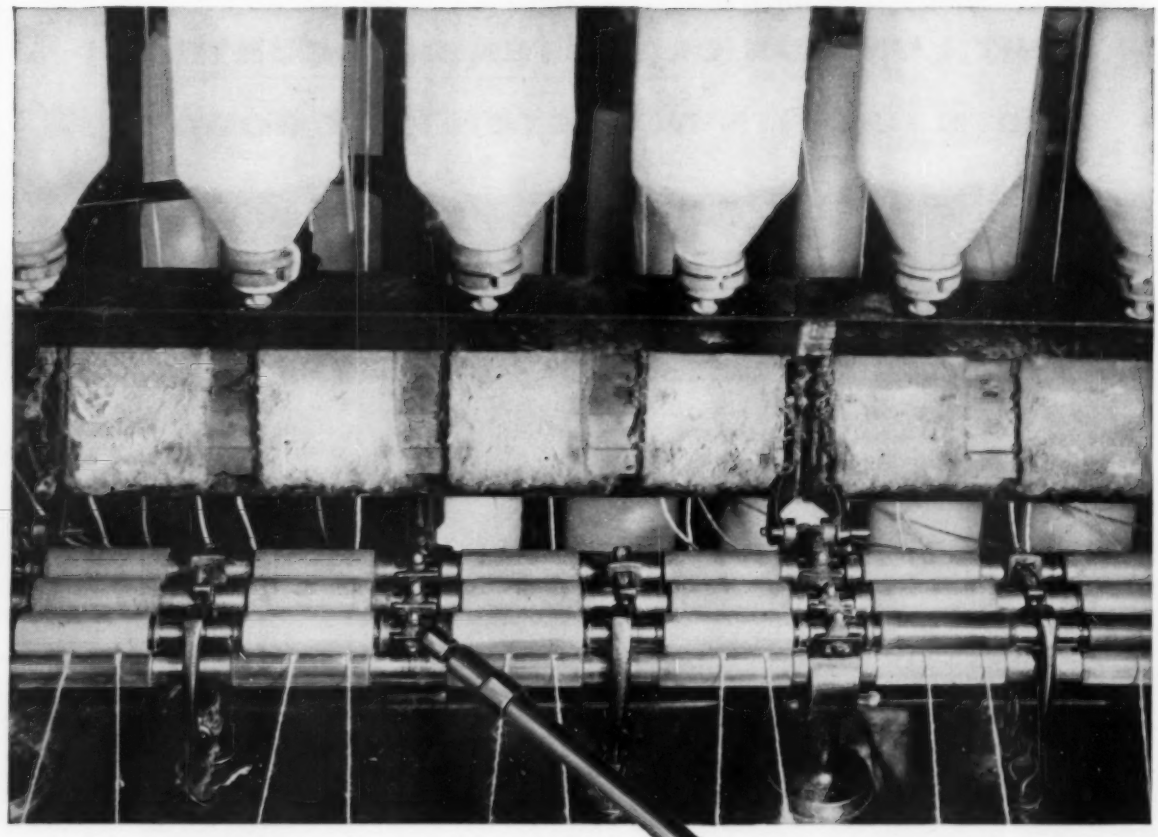

Switch now to Sinclair NO-DRIP and protect your yarn and roll coverings from spoilage. This fine lubricant *stays in place,* without creep or drip—permitting rolls to turn smoothly without drag, providing even draft . . . and *saving wear.*

Sinclair NO-DRIP Lubricants can *save you money* by assuring smooth operation, low maintenance . . . eliminating costly spoilage and repairs.

Call your Sinclair Representative today for further information or write for the new NO-DRIP pamphlet to Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y.
There's no obligation.

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TEXTILE LUBRICANTS

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ELLIOTT C-W Adjustable Speed Drives

are your answer for...

- Speed Adjustment
- Positive Stopping
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- Pre-set Speed
- Multi-motor Drive
- Jogging or Creep Speeds
- Automatic Acceleration or Deceleration
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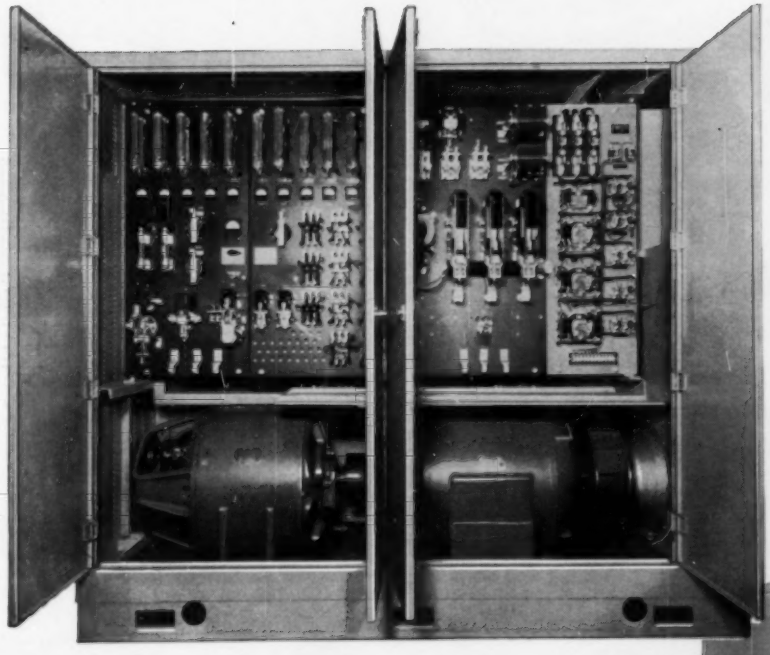
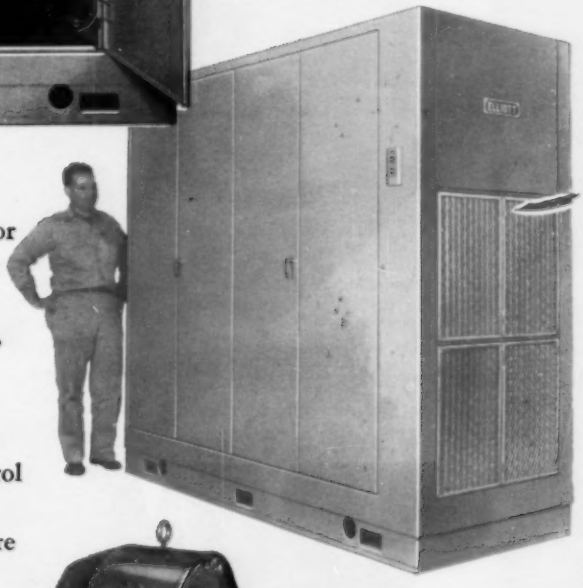
- and many other complex operating conditions

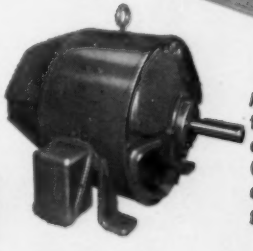


A control cabinet houses the a-c to d-c conversion unit, plus the control required for the particular application. At left is a 100-hp package.

Power unit is housed in a pressurized sheet-metal cabinet with incoming air passing through filters, insuring long life and low maintenance costs. Cabinet has doors, front and rear, for easy access; doors, as well as center posts, are removable.

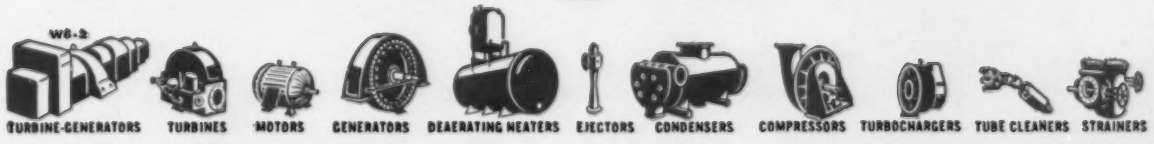


THESE PRE-ASSEMBLED, PRE-WIRED, easily installed power packages meet today's needs for flexible d-c motor performance from a-c power supply. They are designed for ratings up to 200 hp; speed ranges to 16:1 and up; 208, 220, 440 or 550 volts; 25, 50 or 60 cycles; 2 or 3 phase operation. Many modifications can be provided to meet special operating conditions. All components—power conversion and control—are backed by the Elliott Company's more than half-century experience in the manufacture and application of industrial drives. For complete information, write Elliott Company, Crocker-Wheeler Division, Jeannette, Pa.



A typical Elliott C-W d-c motor for use with adjustable speed drives. In addition to dripproof (shown) Elliott offers totally-enclosed, integral brakemotors and gearmotors.

ELLIOTT Company



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HORIZONS in Drawing

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THE Whitin EVEN-DRAFT* Drawing frame is an entirely new textile machine which brings to the drawing process greatly advanced standards and levels of production, quality, flexibility and operation never before thought possible. It creates new horizons in drawing — in lowered machinery requirements — lessened costs — and from both direct and indirect benefits, greater mill profits.

- ★ **From 250-300 feet per minute Front Roll Delivery** — Production two to three times more than conventional machines, depending upon mill conditions and production needs.
- ★ **For all fibers up to 3"** — The first universal drawing frame — for cotton, spun synthetics and blends.
- ★ **Outstanding Sliver Quality** — Improved uniformity in both carded and combed sliver — 6 or 8 ends up.
- ★ **Pneumafil Clearer Units** — A brand new way of removing waste fibers. Developed for, and an integral part of, this machine.
- ★ **Entirely New Design** — Two independent four-delivery heads; vibration proof construction; precision tolerances; anti-friction bearings; unique four over five roll drafting; new overarm weighting; no-twist can table; electronic stop motions and signal lights; 14" – 15" – 16" cans, 36" or 42" high.

*Trade mark

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CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

450 feet

High Quality Drawing Sliver

per minute

This report on Ideal High Speed Ball Bearing Drawing* was made by one of America's finest independent testing laboratories.

For speed . . . and for high quality drawing sliver . . . write for full information today.

CARD SLIVER

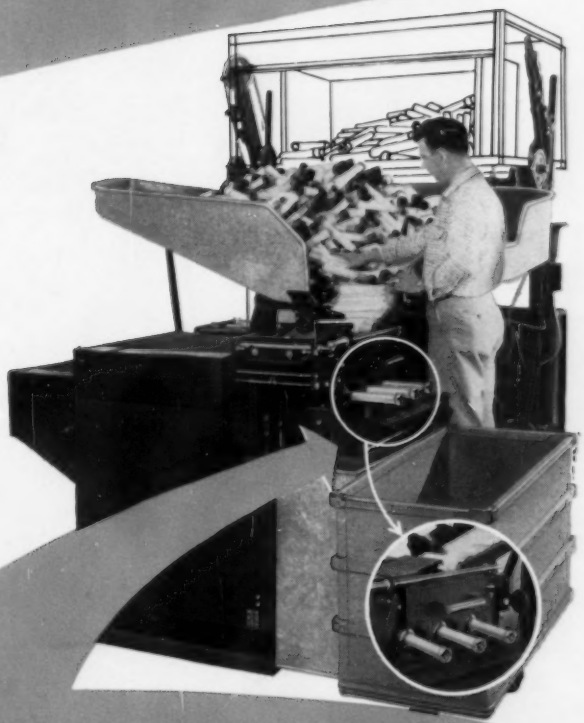
24.5% (2.6)
(average of 24 cans)

BREAKER DRAWING			
120 FT. /MIN.	240 Ft. /MIN.	360 FT. /MIN.	450 FT. /MIN.
17.1% (1.7) (average of 8 cans)	17.2% (1.1) (average of 8 cans)	18.4% (2.5) (average of 8 cans)	21.8% (1.5) (average of 8 cans)
FINISHER DRAWING			
120 FT. /MIN.	240 FT. /MIN.	360 FT. /MIN.	450 FT. /MIN.
15.0% (1.9) (average of 12 cans)	16.8% (1.6) (average of 12 cans)	16.2% (1.0) (average of 12 cans)	17.7% (0.6) (average of 12 cans)
ROVING			
39.1% (1.3) (average of 12 bobbins)	41.2% (1.8) (average of 12 bobbins)	42.0% (2.9) (average of 12 bobbins)	45.6% (2.2) (average of 12 bobbins)
YARN			
30.4/1 (0.8) 103% (2.7) 69.0 lbs. (3.5) BF = 2098 (average of 12 bobbins)	30.5/1 (0.7) 104% (2.0) 66.0 lbs. (2.8) BF = 2013 (average of 12 bobbins)	30.3/1 (0.6) 107% (3.1) 68.0 lbs. (2.6) BF = 2060 (average of 12 bobbins)	30.3/1 (0.8) 107% (2.6) 66.0 lbs. (3.7) BF = 2000 (average of 12 bobbins)

*Patent Nos. 2,610,363; 2,490,544; 2,412,357. Other patents pending.

Ideal Industries, Inc.
Bessemer City, N. C.

THIS IS EXPENSIVE AND DANGEROUS



THIS IS ECONOMICAL AND SAFE

New Type M Provides a completely safe method of cleaning roving bobbins.

Works equally well on COTTON and SPUN SYNTHETICS.

For complete information on the advantages of New Type M—consult

THE Terrell MACHINE COMPANY, INCORPORATED
CHARLOTTE, NORTH CAROLINA

On-the-job problems solved on the job

Think of this as your dye house. Right now you're looking at packages from the first full-scale commercial run of your new high-temperature dyeing process. And the fellow in shirtsleeves? He's the demonstrator from Du Pont. He's been on this job in your plant ever since the first, rough planning stages.

He's helped you select the proper equipment; he's helped work out the correct formulations for the results you want and has even trained your operators in the new routine. Now, with all the "bugs" worked out, the process is yours—the problem's solved—his job is finished.

Any of the Du Pont demonstrators could fit into this picture. They are all highly trained men, well qualified to handle any dyeing and finishing problems. They'll help you with jobs like the one outlined above. Matter of fact, they'll take on any job, from simple shade matching to the most complex process.

Remember—when you deal with Du Pont, you deal with the finest technical-service group in the field. This complete technical service is ready to work with you. Just give us a call, or write to the nearest District Office. See the convenient list at right.

Du Pont Dyes

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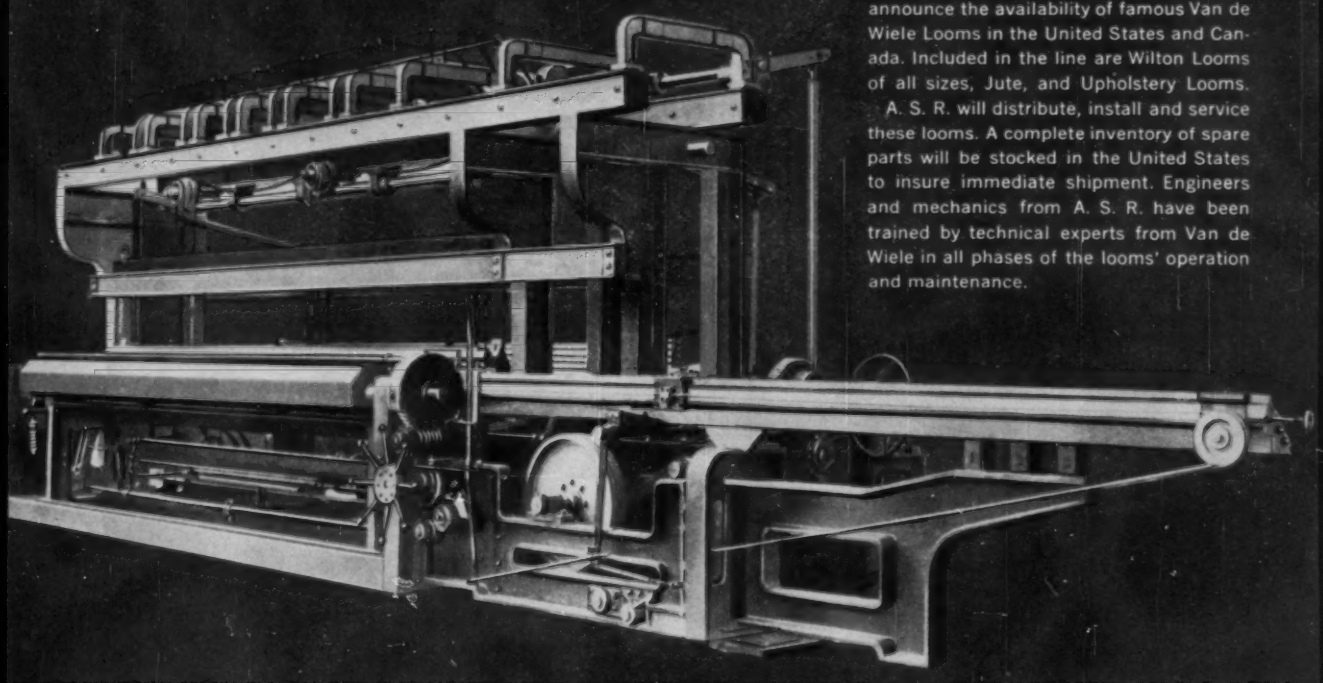
Important announcement to all Carpet Manufacturers

FAMOUS VAN DE WIELE LOOMS NOW SOLD, INSTALLED AND SERVICED BY A·S·R

It is with great pleasure that American Safety Razor Corporation and the Van de Wiele Company of Marke, Belgium, announce the availability of famous Van de Wiele Looms in the United States and Canada. Included in the line are Wilton Looms of all sizes, Jute, and Upholstery Looms.

A. S. R. will distribute, install and service these looms. A complete inventory of spare parts will be stocked in the United States to insure immediate shipment. Engineers and mechanics from A. S. R. have been trained by technical experts from Van de Wiele in all phases of the looms' operation and maintenance.



New Van de Wiele 15' Wilton Jacquard Loom weaves 10% faster

New patented wire motion means less downtime, greater efficiency, less replacement of parts

Here's the heavy carpet loom that makes all other types obsolete! The new 15' Van de Wiele Loom is priced in line with competition. Yet included *at no extra* cost are shuttles, cop press, nylon wire hopper, weaver's stand, leather parts and your choice of color. An Alemite lubrication system to all main bearings is also included as standard equipment.

And check all these features:

- Rugged, extra-heavy construction. The crankshaft is of forged steel with heavy-duty double roller bearings. Bottom shaft is also steel with double ball bearings. All main gearing is steel with machined teeth.
- Allen-Bradley electrical control system of the machine-tool type with forward and reverse inching motion.
- Improved design of horizontal tension-spring picking system virtually eliminates flash-fire hazard and lowers downtime.
- Improved wire motion and improved shedding motion created by unique simplified gearing. 10% faster picking time.
- Superior design and materials give longer life to wear parts.
- Double supported cam rollers eliminate wear caused by cantilever effect of cam followers supported at only one end.
- All nuts, bolts and screws on Van de Wiele Looms are American National Standard.
- Complete engineering service by factory-trained A.S.R. engineers. Immediate shipment of spare parts.

FOR FURTHER INFORMATION: The American Safety Razor Corporation will send a representative to provide you with all the facts on this revolutionary Van de Wiele Wilton Loom. *Write to:* Industrial Products Division, American Safety Razor Corp., Staunton, Virginia.

Sole Distributors for Van de Wiele Looms in the U. S. and Canada.

PRECISION A·S·R PRODUCTS Industrial Products Division, AMERICAN SAFETY RAZOR CORPORATION, Staunton, Va.

Every new fiber developed brings to the textile plant both opportunities and problems. New physical characteristics of the fibers usually require changes in processing equipment. Hundreds of variations have been made in Herr Flyers to accommodate the new yarns. Many special Herr Conical Ring and Traveler combinations have been produced. If you have a spinning or twisting problem — Let us help you.

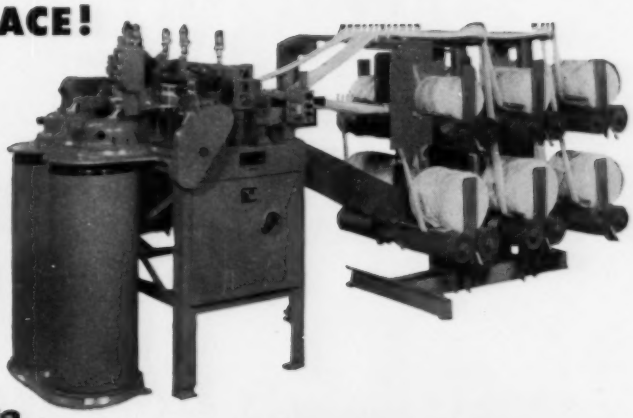
HERR Manufacturing Company, Inc.
309 Franklin St., Buffalo, N. Y.

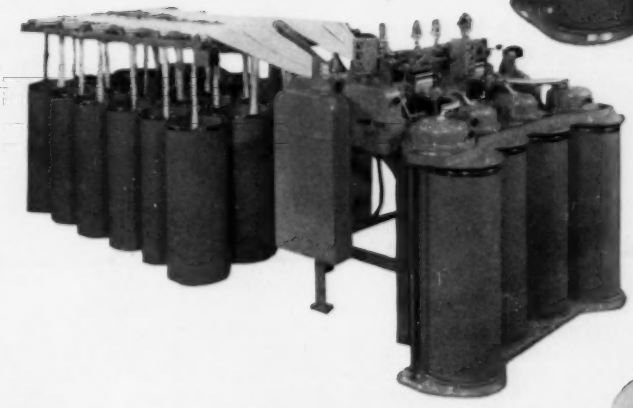
FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

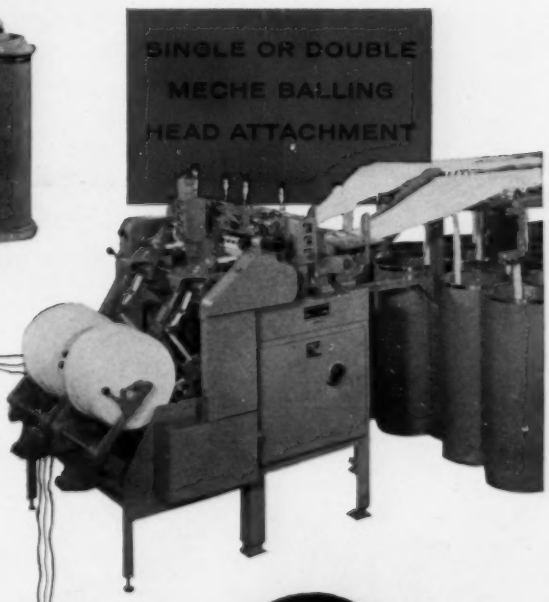
NEW HIGH-SPEED, DOUBLE-HEAD PIN DRAFTER®

doubles production

IN SAME FLOOR SPACE!







- **CAPACITY INCREASED 100%**
  6-inch faller bars—13 yards per minute in-feed speed.
- **BETTER BALANCED PRODUCTION**
  From first through third operations.
- **EASIER OPERATION**
  Enables operator to handle more poundage.
- **SIMPLIFIED DESIGN**
  Minimum maintenance—greater accessibility.
- **PRODUCES SLIVER WEIGHTS UP TO 5 OUNCES.**
- **APPLICABLE TO FRENCH, BRADFORD OR AMERICAN SYSTEMS, AND DYE HOUSE OPERATIONS.**
- **HANDLES WOOL, SYNTHETICS, OR BLENDS.**

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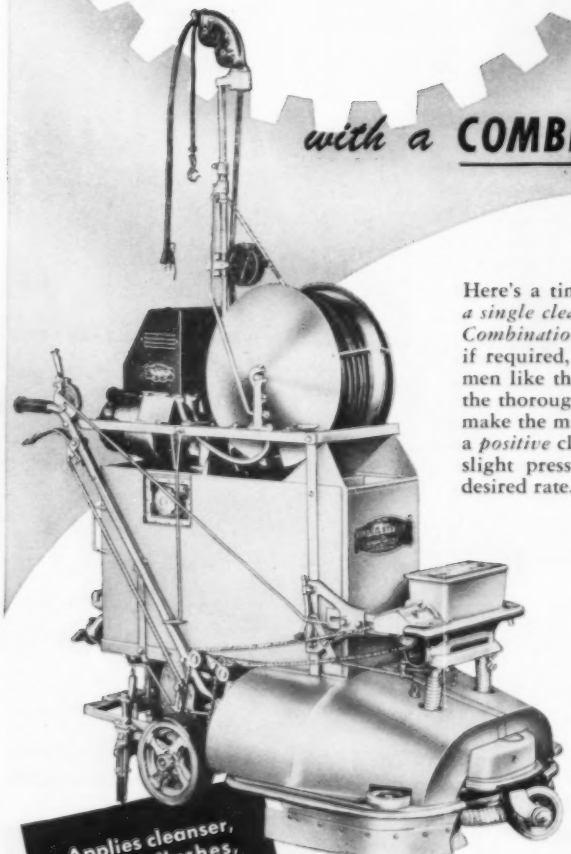
MECHANIZE 4 Scrubbing Operations into 1

with a COMBINATION SCRUBBER-VAC!



Applies cleanser, scrubs, flushes, and picks up—in ONE operation!

(Powder Dispenser and Level Cable Wind are accessories)

Here's a timely answer to the need for reducing labor costs—*a single cleaning unit that completely mechanizes scrubbing.* A *Combination Scrubber-Vac* applies the cleanser, scrubs, flushes if required, and picks up—*all in one operation!* Maintenance men like the convenience of working with this single unit . . . the thoroughness with which it cleans . . . and the features that make the machine simple to operate. It's *self-propelled,* and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs quietly.

Model 213P at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! *Finnell* also makes *Scrubber-Vac Machines* for smaller and larger operations, and in *gasoline* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac,* and that *a Finnell Floor Specialist and Engineer is nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups.

For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1902 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

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Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

Am I ready for a Towmotor?

You are, if your present handling operation is *not* fully mechanized, and requires: **1.** *3 or more full-time workmen.* **2.** *Movement of heavy or bulky unit loads.*

In today's competitive market, you must step up your business operations with efficient handling methods. To discover how *your* firm can speed handling, eliminate "bottlenecks" in the flow of materials, and make maximum use of storage space, call your Towmotor representative today. He'll show you how to cut handling costs and open the door to *greater profit.* Write for certified Job Studies covering your industry. TOWMOTOR CORP., Div. 2202, 1226 E. 152nd St., Cleveland 10, Ohio.

America's ***best engineered*** *fork lift truck*

TOWMOTOR
THE ONE-MAN-GANG®

Read how a company in the Weaving Industry cut handling costs 50%. Ask for Job Study #117

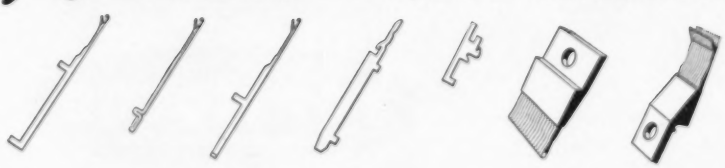
THERE'S ONLY ONE FORK LIFT TRUCK CALLED TOWMOTOR

For more information, write direct or use Reader-Service post card.

When You Need Freedom of Movement

. . . you'll need Arrow Latch Needles for your knitting machines. Only the *finest quality knitted wear* comes from machines equipped with these needles — because you're *assured* of free latch movement, a strong latch, a finish that's mirror-smooth. Isn't it also reassuring to know that the mark "Arrow" on Latch Needles, Sinkers, Sliders, Jacks, and Leaded Assemblies means that Textile's half-century of industry *service* backs up their manufacture and sale. As for delivery? Prompt . . . from stocks in Reading, Pa., Asheboro, N. C. and Manchester, N. H.

Arrow Latch Needles



Wire Products Division

TEXTILE MACHINE WORKS, READING, PENNA.

The LONG-RANGE VIEW

The Union Again

Mr. Reuther has spoken.

Who is Mr. Reuther? The high priest of labor unions, vice president of the merged AFL-CIO. He came up in that fairest of all U. S. industries, the automobile industry. He's the fairest of all union fair-haired boys.

Mr. Reuther said, "Let's take on the textile industry, and let's say to the textile industry, 'If you try to run away from organization, we will be waiting when you get there to organize the workers in new plants.'"

Doesn't that frighten you, you run-away-from-the-union textile people? It should. This is *Mister* Reuther talking—*the* Mister Reuther.

You can tell from Mister Reuther's chest-thumping that at least Mister Reuther considers that he has talents that Emil Rieve, George Baldanzi, and other union small-fry lacked. He sounds exactly like Mister Reuther should sound—like a Detroit eager beaver who knows no more about the textile industry than how to spell the words.

The "Geniuses" Again

All this reminds us of some of the parade of mechanical and engineering "geniuses" who looked at a loom, called it a "contraption," and decided to give the poor textile industry the blessing of their great genius: they would turn that contraption into a Machine (capital M, please). In the end, they learned that a commercially practical loom is a far more complex and difficult machine than an automobile and a few other machines of "genius."

Mister Reuther undoubtedly is in for some surprises. We would be willing to bet that a year from now Mister Reuther will either not mention "taking on the textile industry" or will forget to thump his chest when he does mention it.

Union Pressure

There is no getting around the fact that mills are in for increased union activity this year. We hold no brief against the principle of organized labor, but we do strongly condemn union practices. Until the unions clean house of vicious leaders and goon squads and reach a mature outlook on technological progress and workloads, we want no part of them.

We are glad to note widespread signs that key men in unorganized mills recognize two fundamental facts: (1) workers, particularly in the South, had rather be out of a union than in one, other things being equal; and (2) workers join unions as a protest.

In recent weeks, two mills in two different Southern states won out in union elections. To both of these mills, the mere fact that an election could be called was proof that things were not right. They immediately embarked on both a short-range and a long-range program for correcting the bad internal conditions.

These are only the two latest instances that have come to our attention. There are many others. The point is that most mill men now recognize that their own fumbling can drive their workers into a union far quicker than the union's persuasion will pull them in. Those who do not recognize that and correct their fumbling habits and attitudes had better get ready. Chest-thumping Mister Reuther and his side-kicks will be around.

O. M. Thomas

BREAKING

. . . to make yarns more even

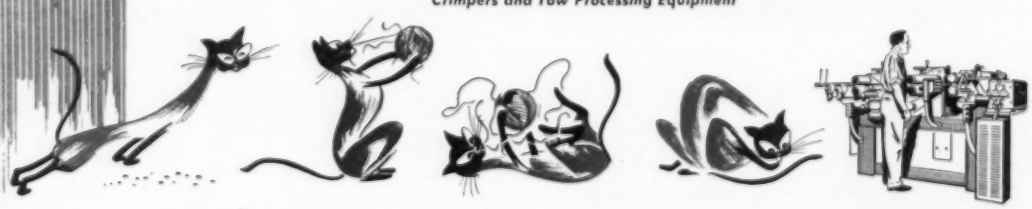
The tow that goes into a Turbo Stapler, and the sliver that comes off, look so much alike that people can't believe anything's happened. But it has, it's been broken by the Perlok Process into sliver that makes yarns of absolutely unsurpassed uniformity. By starting with uniform tow, long range variation is practically eliminated—short range variation is kept to a minimum. Breaking is so smooth and so varied, it is almost imperceptible. There are no co-terminal fibers, ends are distributed at random throughout the sliver to make even drafting through the drawing, roving and spinning operations.

Through simple knob adjustments, changes in denier, staple length, tensile strength, crimp and hand are made in seconds, without auxiliary equipment or special tools.

A Turbo Stapler will probably make a big difference in your profit picture. Write or call today and find out.

TURBO
SINCE 1929

TURBO MACHINE COMPANY
LANSDALE, PA.
Makers of precision Heat and Steam Setting Machines, Crimpers and Tow Processing Equipment



STRETCHING + BREAKING + CRIMPING + FINISHING = The TURBO STAPLER

For more information, write direct or use Reader-Service post card.

Business Investment Holds Key To Both Growth and Stability

What federal tax policy will best promote both growth and stability in the American economy? The Joint Economic Committee of Congress has been asking this crucially important question in public hearings. This editorial suggests one vital part of the answer.

The proposition advanced here is that—

> Tax policy must encourage a continuing high level of business investment in new plant and equipment, because such investment makes a special contribution to *both* economic growth and economic stability.

Growth Needed for Security

We must have both growth and stability.

A vigorous economic growth is essential to our national security. As Congressman Wilbur D. Mills said in launching the Joint Committee's hearings, "The present complexion of world affairs places a premium upon strength and growth in our national economy." Growth is likewise a major ingredient of a healthy domestic economy. Growing enterprises and growing communities offer far more opportunities for satisfying careers than those which are not growing.

A reasonably stable economy, without violent ups and downs, is also essential to our national welfare. Extravagant booms and their more or less inevitable result, severe depressions, waste labor and resources and cause great human misery. Both major political parties have accepted the obligation imposed by the Employment Act of 1946, that the federal government work to maintain high and stable employment.

There is general agreement that **the key to economic growth is investment in new plant and equipment.** Growth depends decisively on new facilities to increase production, and also to produce new and better products in new and better ways. At the same time, new plant investment provides employment for the important, and well-paid, one-fourth of our industrial workers who manufacture and build new production facilities. So if the process of business investment is kept on an even keel, the result is not only growth but also stability in a substantial sector of our economy.

But authorities disagree on the possibility of maintaining a high level of business investment for any great length of time. Some fear that it will lead to an excess of producing capacity and the glutting of markets, with recession or depression not far behind.

The history of our country offers some basis for the fear that it is dangerous to maintain a very high level of business investment. There have been times when the economy has suffered under the weight of excess producing capacity. **This fear, however, has been made obsolete by the recent course of our economic history which, in its earlier phases, nourished the fear.**

The World Has Changed

Here are some of the major considerations, cited at the Joint Committee hearings, which support the conclusion that we not only *can have* a high level of business investment and economic stability but that we actually *need* a high level of such investment to assure stability.

(1) Over the next 20 years our population is expected to increase by about one-third. But most of the population increase will come in age groups younger or older than normal working ages, and people will probably work fewer hours per week. Thus hours worked are not expected to increase more than 15%. Consequently, we must have a relatively large increase in the amount of production equipment per worker if our standard of living is not to suffer. This means a high level of new investment.

(2) About half of our present business investment goes to replace worn-out equipment, rather than to expand capacity as was true during the early stages of our industrial development.

(3) Thanks largely to the impact of organized research—for which we as a nation now spend about $4 billion a year—a large share of capital investment now goes to provide new products and new processes, rather than to expand existing capacity.

These developments make it unlikely that we shall develop the burden of excess capacity that plagued the economy in earlier periods. **Moreover, most capital investment plans are now made on a long-range basis. Companies are building facilities to anticipate their needs for several years ahead.** This increase in long-range planning has reduced the disturbing effects of temporary shortages and excesses in producing capacity.

The record of recent years speaks for itself. Business spending for new plant and equipment in 1955 was over $29 billion. This continued the high level of investment that has been maintained for the past ten years—a decade remarkable for both impressive growth and gratifying stability. A McGraw-Hill survey of preliminary plans for 1956 indicates another year of increasing investment, and expanding business activity.

Tax policy, to be successful, must consider this impressive contribution of business investment to both growth and stability.

Of course, the level of investment depends on many factors other than federal tax policy. The degree of business confidence is important. So is the strength of consumer markets. So is the attitude of organized labor toward the use of more efficient machinery. But tax policy is a crucially important factor. And it is becoming more so with new developments in our changing economy. These developments indicate that tax policy **must be geared to foster a high level of business investment, if the dual objectives of economic growth and economic stability are surely to be attained.**

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

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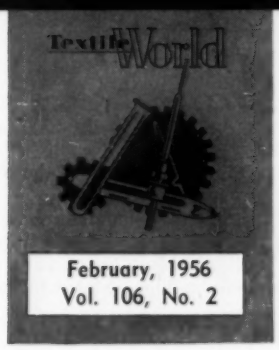


1955-1956 Review and Forecast-

General Outlook

Good Business in '56

Highlights of 1956 textile business will be—

- **Dip in second quarter, comeback in third**
- **High level of mill improvement will continue**
- **Cotton dilemma won't be solved**
- **Unions will needle Southern mills**

By P. M. THOMAS, EDITOR, TEXTILE WORLD

BUSINESS PREDICTIONS for 1956 are perhaps rosier than for any other recent year. Although midyear marks the end of the famous "two-year cycle" of good business in the textile field, most observers seem to expect not only continued good business, but a strong pickup.

As pointed out in the article on mill production in this Review and Forecast, there may be a dip in mill business in the second quarter in reaction to buying ahead to beat the $1 minimum wage that goes into effect in March. But the dip will be brief. Business is expected to steamroll again in the last half.

Sparked by full production and rising prices, profits improved in late '55 and promise to be better throughout '56. Wage raises last year and adjustments to the $1 minimum coming early this year have already been largely offset. With little, if any, significant decrease in demand in sight, prices and profits should continue at favorable levels.

Improvement Continues

One of the highlights of 1955 was the rate at which mills invested in equipment for improvement. Mill purchases of equipment and supplies were at an all-time high. Indications are that 1956 will be 7 to 8% better. Capital expenditures also are expected to be about 7% above 1955, compared with 10 to 12% for all U. S. industry. Since capital expenditures represent one of the big supports of general prosperity, business observers take these plans as an indication of prosperity in 1956.

Following the announcement by the U. S. in June of tariff cuts on cotton goods, there was a wave of hesitancy in the textile industry. Some mills canceled plans for expansion; others held off on improvement. But after the first flood of imports from Japan in August and September showed that the fears of the textile industry were well founded, caution began to show up among government people and Congressmen. Reaction in the U. S. led Japan to limit exports to the U. S.

The result was that U. S. mill men read the signs to mean that the textile industry was not going to be stifled. Confidence returned, and mill improvement went ahead again.

Commitments at the end of the year went well into 1956. Unless some emergency arises, this year will be a very active one in mill improvement.

Undercapacity?

In November, 1954, page 93, TEXTILE WORLD published a study of textile production capacity in the U. S. In that article, we pointed out that spindles and looms, decreasing in number for a quarter of a century, had about reached the point of undercapacity.

More and more textile men are discussing that situation. Most of them agree that the industry could not meet extraordinary production demands now. If the U. S. government's attitude were more favorable to the textile industry in the matter of foreign trade, we undoubtedly would see significant expansion of facilities.

The Cotton Dilemma

Conflicting with the interests of the textile industry is the ticklish cotton situation.

Cotton-price support is such a firmly established domestic policy that it probably would take an upheaval to change it. The government is committed to this policy, which forces U. S. mills to pay high prices for cotton.

One way to reduce the vast supply now on hand in the U. S. is to drop the price on foreign sales to world-price levels. But that would give foreign mills American cotton

cheaper than U. S. mills can buy it in the home market.

The complication rises over tariffs and imports. The U. S. government is also committed to a high level of cotton-goods imports from Japan. And the State Dept. is opposed to textile-import quotas.

Admittedly, it is a quandary—another phase of the whole farm-policy problem that is giving the Republicans a case of shakes in an election year. Our guess is that nothing of much real value will be done about it this year.

Union Is Active

The merged AFL-CIO served notice in late '55 that it will step up efforts to organize Southern mills. So far as individual mills are concerned, union activity will probably be the most pressing problem in 1956.

Again our guess is that there'll be a lot of smoke and noise, and some mills will be organized; but the union will fall far short of its hopes.

Mill Production

Mills Turn In Their Third-Best Year

- **Mill production in 1955 was 10% above 1954—and was the third-highest in history**
- **In spite of an expected dip in late spring and early summer, 1956 should see—**

  Cotton up 2 to 3%

  Synthetics up 9%

  Wool up 6%

By McGraw-Hill Dept. of Economics

MILL PRODUCTION in 1955 was the third highest on record—and 10% above 1954. TEXTILE WORLD's mill-activity index, which compares production by years, advanced to 109 (1947-49=100). About 6,644-million pounds of fiber was consumed in the United States last year, compared with only 6,019-million pounds in 1954. Fiber use was higher only in the two years affected by the Korean war.

Backlogs and prices were relatively featureless through the first half of 1955, while stocks drifted downward. The latter half of the year was marked by large and increasing unfilled orders and rising prices. Variations in production level were almost entirely seasonal.

Output ran consistently above year-earlier levels. Wool was up 5%, cotton up 6%, rayon up 21%, and other synthetics up 31%.

TEXTILE WORLD's Textile-Mill-Activity Index
(1947-1949 average = 100)

1924	50	1940	80
1925	58	1941	106
1926	61	1942	113
1927	68	1943	109
1928	61	1944	101
1929	66	1945	98
1930	50	1946	107
1931	53	1947	105
1932	48	1948	105
1933	60	1949	89
1934	52	1950	112
1935	57	1951	113
1936	70	1952	106
1937	72	1953	107
1938	59	1954	99
1939	74	1955 (est.)	109

Capacity Pinch Felt

The long era of excess productive capacity in the textile industry is drawing toward a close. Influences at work are:

1. Population is increasing steadily at about 1¼%, or 2,750,000 persons per year.

2. Per-capita consumption of cotton cloth has remained constant over the last 60 years and has demonstrated an underlying stability. Increased use of synthetics has more than counterbalanced declines in wool.

3. Number of spindles and looms has decreased ever since 1925. Operations as a percent of capacity are trending steadily upward and will soon be pressing on the ceiling.

4. Although efficiency and speed of new equipment have increased, a very large proportion of industry capacity is antiquated. New capital expenditures by textile mills are very low.

5. The textile cycle fluctuates so that machinery sufficient for average operations is inadequate to meet peak loads.

Therefore, textiles are entering a period of stringency of supply during the late 1950's. The effect commenced to be felt in 1955.

Inventories

Inventories held by the textile industry as a whole were reduced somewhat during the first half of 1955, but a small amount of inventory building took place in the latter

half of the year. Although little important over-all change occurred, divergent movements took place within the total.

Rayon and other synthetics stocks were reduced more in 1954 than cotton; hence, rayon inventories commenced rising early in 1955 and continued throughout the year.

Cotton-mill inventories remained featureless at a moderately high level, one-eighth below most of 1954 but double the post-Korean minimums.

Stocks of finishers and wholesalers turned up more than seasonally in the fall.

Department-store stocks of textiles drifted down slightly to the lowest point in five years.

Mill-order backlogs shelved off somewhat during the spring, but renewed buying sent them upward. By the latter part of the year, they were very robust, only slightly below the pinnacles of late 1950 and nearly double the early-1954 low point. Rayons, after enjoying the upswing with cotton, faded downward a bit in the fall.

Prices

Price strength asserted itself in May and June, and there were sharp price increases for cotton cloth in the fall. The price increase in rayon cloth faltered in the last quarter of the year, however.

Textile-mill profits burgeoned after a long period of stunting. Net profit per dollar sales (after taxes) was 2.5% in the first three quarters of 1955, compared with 0.9% in 1954, and the best year since 1951.

Flow-through of goods at retail was very good and promises to remain so in 1956.

What About 1956?

Present production rates are running slightly ahead of offtake. Rising cloth prices have already called marginal equipment into activity; so the 1st quarter of 1956 will see rising output, but also rising inventories.

Sentiment toward forward buying has lately been favorably influenced by:

1. The $1 per hour minimum wage law, which becomes effective March 1, encourages forward commitment by wholesalers and retailers, who expect costs of mills and apparel manufacturers, and hence their prices, to rise.

2. Tight delivery schedules feed on themselves. Inability to secure goods causes extension of forward commitments and a pyramiding of orders.

3. An increasing awareness that capacity limits are near in production of cotton and rayon emboldens discerning buyers to protect themselves against future needs.

On the other hand:

1. Stocks on which to build are not depleted. No real shortage exists today.

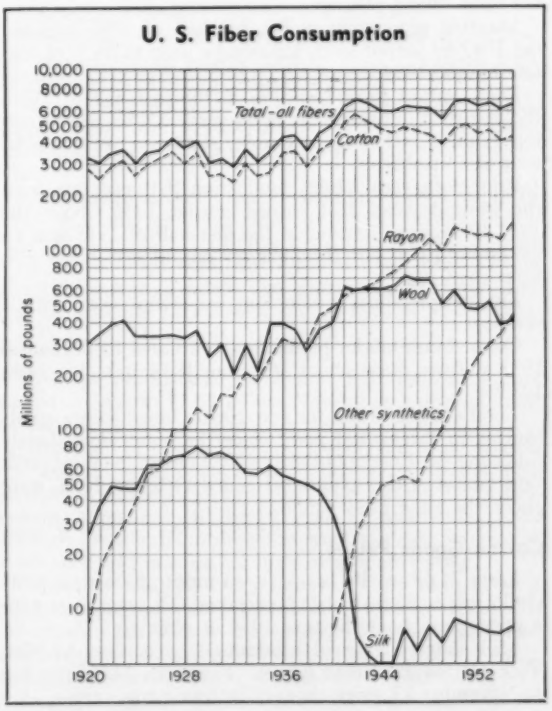
2. Raw-material prices seem likely to fall, especially after the middle of the year.

3. The chance of quantities of lower-price imports—whether it materializes or not—exerts a downward force on buying.

Putting these factors together, we see that the current textile cycle may be described as the scissors that never closed. For a great many years, the industry has followed a more or less rhythmic (a) expansion of unfilled orders accompanied by a contraction of inventories and rising price, followed by (b) a contraction of unfilled orders, increasing inventories, and falling price. But this time, the contraction will not amount to much.

March-July Drop

Increasing stocks and falling orders will probably characterize the period from March, 1956, into the summer of



1956, as digestion of current excess output takes place. The drop-off from March to July will likely be more than seasonal. But mill-order backlogs will enter this intermediate dip at a very high level and should cease falling early in the second half of 1956 at a point considerably above any previous cyclical trough.

That is about as much contraction as we are likely to get in 1956.

Second-Half Spurt

In the second half of 1956, the textile industry seems sure to pick up sharply, with operations running close to three full shifts, five days a week. Only an unexpected avalanche of imports or a sharp decision to curtail stocks could abrogate this extremely favorable prospect. Backlogs are likely to build up more than in any recent year.

The normal growth of population, plus rising personal income and strong retail sales, are expected to make the fall peak in demand higher than ever before. And the industry does not have capacity, except in woolen and worsted goods, to meet such an increase. The expected shortage of many fabrics is likely to produce a scramble for goods in which orders are placed further ahead than usual. Therefore prices and backlog are likely to surge ahead while production holds at capacity.

Production by Fiber

Output of cotton broad woven goods in January through June of 1955 totaled 5,045-million yds., up 2% from the same 1954 period but down 3% from the thriving first half of 1953. Third-quarter production increased 5% compared to 1954.

From July through September, an estimated 2,375-million yds. were produced, down seasonally 8% from the previous quarter but 3% above the relatively quiet third quarter of 1954. In the fourth quarter, output increased to a margin of about 6% above the like year-ago period.

Production of sheeting and allied fabrics trended sharply upward to an estimated quarterly rate of 691-million yards in the third quarter of 1955, compared with 567-million the same time a year ago.

Sheeting production in the last half of 1955 regained the 1947-49 output level, following a drop to 85% of that rate by mid-1954.

Duck output turned up 7% in the first half of 1955, the first such improvement in 3½ years. Other woven cotton fabrics, including corduroys, draperies, and velvets, were also up sharply.

Print-cloth yarn fabrics production flattened out from the upward trend that carried output 21% above the 1947-49 average. Output in the first half of 1955 was up 2% from 1954, but third-quarter output was down 1% from a year ago.

Fine-cotton-fabrics production was about even with a year ago.

Colored-yarn-fabrics production continued to decline in 1955 and was down about 5% from 1954 and 25% from 1953.

Total unfilled orders for gray cotton broad woven goods spurted to the highest point since the boom immediately following the Korean outbreak. New orders for print-cloth yarn fabrics in the six months ended October, 1955, were above the same 1953 period.

Cotton-Goods Prices

From 74.6¢ per lb. last May, an index of sensitive print cloths rose to 83.0¢ by late November. This compares with a price throughout the year 1954 of close to 75¢.

Mill margins widened substantially, according to New York Cotton Exchange figures. From the May-June low to November 13, price changes on four items were—

4 yarns	17.34¢	to 21.68¢
3 print cloths	30.04	37.27
3 sheetings	19.81	24.43
2 ducks and 2 drills	24.30	26.73

These were the best margins since early 1953.

According to our best forecasting tools, some further rise has yet to occur. Given a cotton price estimated at 33¢ per lb., with assumed order and stock levels, cloth price should be at 88¢ a lb. at year end.

Cotton in 1956

The usual sequence of events following a price improvement is for production to rise. Because of the high rate of present operations, the output increase that will probably ensue will be smaller than would usually be induced by a similar price increase. Since production and consumption are now in such close balance, any greater production will add to stocks. Stocks at present are not really low.

Thus, the production this fall and winter will likely increase inventories a bit and result in an intermediate dip of fairly shallow proportions. Order backlogs should scoop down (but not very deep), and output rates in some part of the first half of 1956 should be down slightly from present very high levels. The cyclical scissors may contract a bit but will not close.

For the longer terms, the prospects are very bright. Output is already near the top of capacity. Unfilled orders have been pushed to a secondary cyclical peak, out of phase, by the mill wage increase. In any case, the 1956 low point in backlogs will be very substantial.

The cyclical upturn due in the second half of 1956 will take place on top of an order situation that is already high. This seems likely to cause a real boom in cotton textiles in the second half of 1956.

Production of cotton cloth in the first half of 1956 may be down a couple of percentage points from the same 1955 period, but this drop should be more than compensated for in the second half of the year. Over-all, 1956 should be 2 or 3% above 1955.

Synthetics

Consumption of rayon in 1955 was higher than any other year on record. An estimated 1,395-million lbs. were consumed, compared with 1,155-million in 1954 and 1,351-million in the previous peak year, 1950. Rayon made further gains as a percent of total fiber consumed, rising to 21.0% in 1955 compared with a flat trend ranging from 18.3 to 19.8% of the total in the six preceding years.

In last year's TEXTILE WORLD Mill Production summary, we stated, "Rayon went through a more severe shaking down in 1952-53 than cotton or wool and so faces 1955 with a cleaner slate." Rayon was not long in taking advantage of this situation. Pounds consumed increased 21% from 1954 to 1955.

Because of this rising tide of output, demand for synthetics waned somewhat late in the third quarter and was not as great as for most cotton products. Although buying has been at a steady pace, prices rallied only slightly and profit margins remained relatively depressed. With further improvement in orders, it seems likely that some price firmness may again occur.

Viscose rayon advanced much more than acetate in 1955, continuing a long-established trend. More top growth took place in spun rayon than filament during 1955. This pattern has held in three of the last four years.

Rayon broad woven goods increased from 787-million yds. in the first half of 1954 to 951-million yds. in the same 1955 period. Against this 21% over-all gain, 100% spun rayon increased 34% over the same 1954 period, while 100% filament rayon was up only 8%. Increased popu-

larity of linen types and challis were primarily responsible for the gain in spun rayon.

Flat-filament-fabrics production increased 21% over a year ago and was about equal to output in 1947-49 and 1953.

Twisted filament rayon and acetate fabrics, however, continuing their five-year decline, were 24% below a year ago and only about one-quarter of their 1947-49 volume.

Pile drapery and upholstery fabrics and all other mixtures (including largely rayon-cotton and rayon-synthetics) scored 44% increases above 1954.

Noncellulosic fibers such as Acrilan, Dacron, Dynel, nylon, and Orlon rose from a capacity of 428-million lbs. in 1953 to 514-million in 1954 and by late 1956 are expected to reach 570-million. These fibers may reach a total of 915-million lbs. by 1960.

Nylon output in the first half of 1955 amounted to 192-million yds. This was just about even with a year ago but represented nearly an eight-fold increase over 1947-49.

Other synthetics and silk fabrics reached 145-million yds. in the period from January to June, 1955. This was 48% more than the same 1954 rate.

For apparel, synthetics lost some further ground to cotton in several end uses. Men's sport shirts cut from fabrics other than cotton fell from 58% in 1950 to 45% in 1954 and 35% in the first 10 months of 1955. Only 42% of women's suits were cut from rayon in 1955, compared with 51% in 1954. Proportion of women's blouses and dresses made of rayon also declined.

High-tenacity rayon, most of which goes into tire cord, improved to 35.5-million lbs. a month in 1955, compared with 28.6-million in 1954. This was below the high mark of 37.1-million lbs. per month in 1953, however.

Price and Inventory

Price trend in raw materials was up through most of the year. In March, acetate staple increased from 34 to 37¢ a lb., while 150-den. viscose filament yarn increased from 78 to 83¢ and acetate filament yarn went from 75 to 80¢. Viscose staple price remained unchanged at 34¢.

Cuts of 23 to 32¢ in the prices of nylon, Dacron, Orlon, Acrilan, Dynel, and other noncellulosic fibers occurred during November, and other synthetic fibers were expected to follow suit.

Stocks of raw-material rayon fell to the lowest point in over four years. At the end of May, they totaled 61-million lbs., compared with an average of 95-million over the 1952 to 1954 period. By early November, rayon inventories were back up to 77-million lbs., however.

Mill stocks of woven flat filament fabrics increased gradually throughout the whole year and were about 80% higher at the end of the year than at the beginning. They were still about 40% below the highest accumulation reached in mid-1954. Almost all of this inventory increase rested upon a rise in production and sales, and the number of weeks' supply of goods at current shipment rates was only slightly greater at the end of the year than at the beginning. The same situation was generally true for other segments of the industry.

Synthetics output overstretched in 1955 and began to suffer from a mild relapse in activity toward the end of the year. Such a vigorous rate of growth cannot be maintained two years in a row. In rayon, rising stocks and falling output marked the closing months of 1955. This readjustment should be completed by next summer, however. Lower prices should give added push to the rapidly increasing noncellulosic fibers.

All things considered, synthetics output may be 9% higher in 1956 than in 1955.

Wool

It appears that the bottom was reached in December, 1953, in fiber consumption on the woolen and worsted systems. From 10-million lbs. of scoured wool per week at that time, consumption rose to over 13.5-million by the end of 1955.

An estimated 322-million yds. of woven woolen goods were produced in 1955. This compares with 280-million yds. in 1954 and 334-million yds. in 1953. Though the declining trend was checked in 1955, output last year was still 40% below the 471-million yds. made in 1950. In the first half of 1955, production ran 19% above 1954, while the third-quarter rate slowed to a plus 9%.

Apparel Wool

Apparel wool was running 4% above 1954 but was 26% below 1953. In the first half of 1955, yardage output of men's and boys' woolen clothing was up 30%. An estimated 20.6-million suits were cut in 1955, compared with 19.3-million in 1954 and 21.8-million in 1953.

For the first time in six years, summer-weight suits failed to increase as a percent of total suits cut; they comprised only 23% of all suits, compared with 26% in 1954. Also, synthetic fibers in summer suits have failed to increase for two years. Woolen sports trousers gained from a stationary 31% of the total in 1951-54 to 35% in 1955.

Women's and children's clothing fabrics woven from wool improved 20% from 1954 to 1955. This was a smaller gain than for men's wear. By the second quarter of 1955, women's and children's apparel made from wool was being produced at the rate of 40-million yds. a quarter, compared with a low of 30-million yds. a quarter in early 1954.

The 1955 recovery in woven wool has been centered in apparel. Woven wool in all nonapparel uses, including blanketing and transportation equipment, declined further from 5-million yds. per quarter in 1954 to 4-million yds. in 1955. This compares with 35-million yds. in early 1952.

Government orders for wool goods turned up slightly for the first time in over four years and amounted to about 3% of total output.

Carpet Wool

Carpet-wool consumption in 1955 was about 12% above a year ago but 9% below 1953. An estimated 127-million lbs. of carpet wool will be used in 1955, compared with 115-million in 1954 and 135-million in 1953.

About 58.5-million sq. yds. of carpet was made in 1955, a gain of 6% over 1954. Tufted-carpet output was about 38-million sq. yds., for an increase of 25% over the previous year.

Although total rug output reached an all-time record in 1955, wool use fell below other peak years because of the substantial increase in the use of man-made fibers. About 40% of the 1955 total was synthetics, or blends, while about 50% was all wool. The remainder was cotton, and this element was significantly smaller than in recent years.

Price

Price of raw-material wool tops fell from $1.86 per pound in May to $1.53 in late November, a drop of 18% to the lowest price in over six years.

The plight of wool is illustrated by the following: woolen and worsted looms operated an average of 58 hrs. per week in the first half of 1955, compared with 112 hrs. for cotton-system looms and 101 hrs. a week for synthetics. Over 15% of the fibers consumed on woolen-system looms was synthetics, and this use has been steadily increasing.

Lower raw-material prices should continue to make wool more competitive with other fibers. To some extent, this adjustment has already taken place in 1955. Excellent retail-sales prospects combine with moderate apparel stocks in hands of manufacturers, wholesalers, and retailers.

In carpeting, sales at both wholesale and retail levels are

keeping pace with increased production. Continuation of the housing boom and its subsequent consolidation in home-furnishings sales should assist the generally favorable picture. Recently, synthetics have been displacing cotton, while wool has held its own and even made gains.

Therefore, over-all wool volume in 1956 is expected to be 6% above 1955.

Knit Goods

Dollar shipments of knitted cotton and wool underwear, nightwear, and knitted shirts amounted to $108,400,000 in the third quarter of 1955. This figure represents an increase of 17% over the same period in 1954 and an increase of 48% over the second quarter of 1955.

Knitted-shirt shipments were up $1,100,000 over the second quarter of 1955, and underwear shipments were increased by $33,900,000.

Knitted vests, undershirts, and panties for women and children showed the largest increase over the third quarter of 1955. It amounted to 28%.

Men's and boys' shorts and briefs increased 24%.

Union suits and men's and boys' drawers production slipped slightly.

Full-fashioned hosiery shipments at 34,932,651 doz. for the first nine months showed a drop of 541,000 doz. over the same period of 1954.

Women's seamless hosiery shipments showed an increase of 559,221 doz. to 7,101,061 doz. over the first nine months of 1955.

Men's half-hose shipments slipped over the first 10 months of 1955 to 7,440,000 doz. from 8,846,000 doz.

Slack socks remained about the same at 27,454,000 doz. for 10 months.

Work hose and athletic socks remained about the same at 4,858,000 doz. and 3,600,000 respectively.

Significant trends are shown in the fiber composition of socks. Cotton and rayon and slack socks lost ground to nylon stretch socks during 1955. These are the figures:

	1954 (10 months)	1955 (10 months)
Cotton	16,450,000 (doz.)	15,250,000 (doz.)
Rayon	3,750,000	2,640,000
Wool	840,000	1,000,000
Nylon	6,300,000	8,300,000

Mill Purchases

1955 — All-Time High
1956 — Even Better

- **Mill purchases soared 12% over 1954 to reach a new all-time high**
- **Knitting machinery, though spotty, showed the biggest gain**
- **1956 may be another record-breaker, the second one in a row**

By P. M. THOMAS, Editor, TEXTILE WORLD

MILLS bought more machinery, equipment, and supplies in 1955 than in any other year in history. Buying volume registered a thumping 12% above 1954. It was 4.3% above previous all-time-high 1953 and 5% above runner-up 1951.

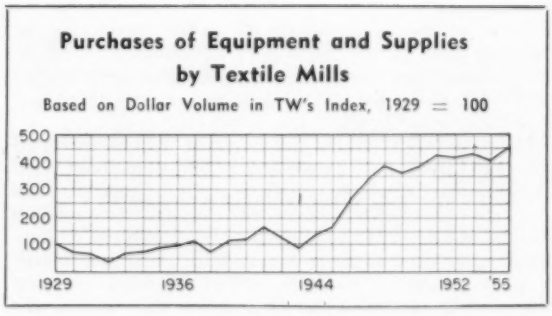
In TEXTILE WORLD's annual survey of mill purchases, the 1955 index (based on 1929 = 100) stood at 455. That compares with recent years as follows:

1955 — 455
1954 — 408
1953 — 436
1952 — 428
1951 — 433
1950 — 399
1949 — 367
1948 — 394

Of 194 companies answering the survey, 42 that either did not give specific figures or were new or relatively new in the textile field and had unusual increases were removed so that their figures would not influence results. Of the 152 companies left in the survey, only 12 reported decreases, 7 reported sales the same as in 1954, and 133 reported increases.

How They Made Out

Companies answering the survey are classified into five groups according to their products. Percentage gains for these five groups were:



Spinning and weaving	—	Up 10.5%
Knitting	—	Up 14.2
Finishing	—	Up 10.0
Auxiliary equipment	—	Up 12.0
Supplies	—	Up 13.4
Average	—	Up 12.0%

Knitting, which suffered the greatest loss in 1954, showed the greatest gain in 1955. But prosperity in this group was spotty. Of the four main branches of knitting, machinery manufacturers in two branches had impressive increases and two had sharp decreases.

Perhaps the most outstanding feature of the 1955 pros-

perity was its breadth. Every group of manufacturers and suppliers shared in the good business. The smallest gain was the 10% turned in by finishing equipment. That is only 4.2% below the highest gain, made in knitting. Since most individual companies had increases, the year could well be described as one of general, consistent prosperity.

1956 Expected To Be Better

Few companies are looking forward to 1956 with misgiving. Of 120 companies that gave their sale expectations for the year, only 7 look for a drop, 31 think their business will be about the same as in 1955, and 82 expect further increases. Collectively, the 120 firms expect a 7.7% increase in 1956.

If these sales expectations materialize, the TEXTILE WORLD index for 1956 will be 487, another record-breaker.

For the five categories, the sales expectations for 1956 are:

Spinning and weaving	—	+ 11.7 (%)
Knitting	—	+ 3.5
Finishing	—	+ 7.3
Auxiliary equipment	—	+ 9.6
Supplies	—	+ 6.7
Average	—	+ 7.7%

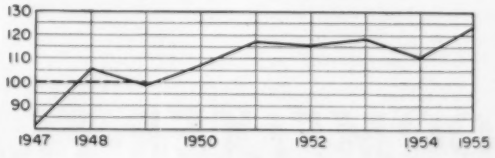
New Base for TW's Index

Since the value of the dollar has undergone such drastic changes since World War II and it is no longer realistic to compare current values with 1929 values, we present here for the first time TW's index based on 1947-1949 average = 100.

On that basis, the index of mill purchases for late years is:

1947 — 92
1948 — 107 } **average 100**
1949 — 100
1950 — 108
1951 — 118
1952 — 117
1953 — 119
1954 — 111
1955 — 124

Purchases of Equipment and Supplies By Textile Mills Based on Dollar Volume in TW's Index, 1947-1949 = 100



Tips on BLEACHING ACRILAN

By WALTER H. HINDLE, Chemstrand Corp.

IT IS IMPORTANT to remove traces of metallic elements in the processing liquors used to bleach Acrilan. Chelating agents are only of slight benefit. Phosphoric acid added to the acid pretreatment before bleaching and to the souring bath after bleaching produces excellent results that are stable to light.

The revised bleaching method follows:

The goods are scoured for 20 mins. in two grams per liter sulfuric acid, 2 gpl. phosphoric acid, and 1 gpl. nonionic detergent at a temperature of 200° F. Then the temperature is dropped back to 160° F. and 1 gpl. Textone is added. Bleaching is allowed to continue for 25 mins., at which time an additional 0.5 gpl. Textone is added and bleaching is continued for an additional 15 mins.

After bleaching, the bath is dropped and the goods are treated for 10 mins. in 2 gpl. phosphoric acid at 140° F. At the expiration of this treatment the goods are rinsed and antichlored in 1 gpl. sodium bisulfite and 1 gpl. sodium bicarbonate for 20 mins. at 140° F.

A point of great importance is that the goods should be completely neutralized in the antichlor treatment for the dual purpose of obtaining maximum elasticity of cuffs, waistbands, and collars, and also optimum utilization of finish used in the final operation. At the conclusion of the antichlor step, the goods are rinsed and may then be finished by using one of a considerable number of cationic finishing materials.

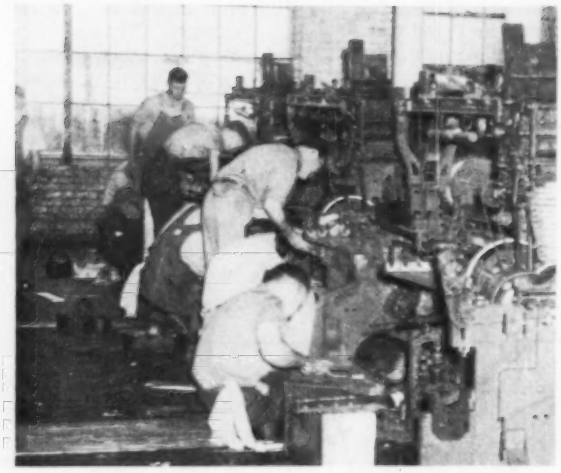
Finishing Bleached Goods

Finishes tested so far on Acrilan that give excellent results include:

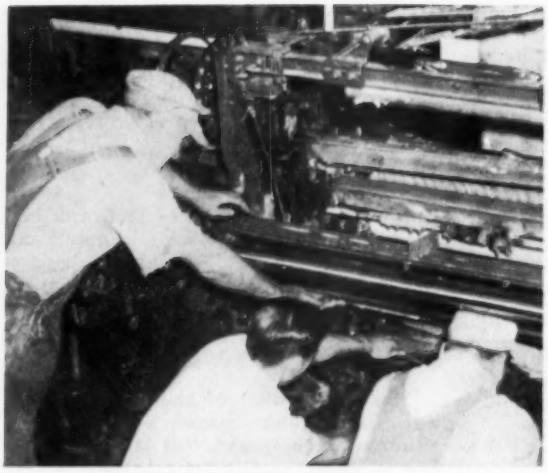
Sapamine OC	(Ciba)
Velvatole MS	(Quaker)
Ahcovel A	(Arnold-Hoffman)
Softex #596	(Houghton)

These materials have also been found to maintain optimum color of the white and are not affected by Fade-Ometer exposure. Sapamine OC and Velvatole MS produce the best hand when applied at a pH of 8 using from 2 to 4% on weight of goods of the finishing material at a temperature of 140° F. for 20 mins.

After finishing, the goods should be lightly extracted and tumbler-dried at a temperature not over 175° F.



OVERHAULING and assembling looms is the first step in training new loomfixers.



EXPERIENCED LOOMFIXER checks all work done each day by loomfixer trainees in the weave room.

LOOMFIXER-TRAINING Program Puts 30 Men on Jobs

Twelve men are being trained constantly for loomfixers. In addition to a large supply of reserve loomfixers, the work done by the trainees keeps looms in top mechanical condition. Other results are—

- **No loomfixers have been hired for six years**
- **30 loomfixers have been placed on sections**
- **All loomfixers in the mill are highly skilled**

By **WILMER C. WESTBROOK,** Consulting Editor, TEXTILE WORLD

THE PRESENT METHOD of training loomfixers at a Southern mill with over 2,000 looms was started about 10 years ago. At that time, good loomfixers were scarce. And many of the loomfixers on the job were just able to get by.

Before this time, loomfixers at the mill had been promoted from weavers and warp men. They became spare hands and worked for months or years overhauling looms and running various jobs when regular employees were absent. These men worked by the trial-and-error method; and after they were placed on sections, many of them did not know a lot about looms.

Because repair parts had been scarce during the years of the war, many of our looms needed overhauling. So to train loomfixers and get our looms back in good condition, we worked out a plan to do both jobs at once.

Train 12 Men at Once

Twelve loomfixer trainees were placed under the supervision of two experienced loomfixers. First, a trainee learned about loom parts and motions by repetitive work such as taking down and rebuilding take-up and let-off motions, batteries, and dobbies. After he had learned the general mechanics of a loom, he was given more advanced work, for example, putting in shuttles and aligning shuttle boxes.

Next he was taught to search out loom faults causing trouble. After several months of this work, most trainees

BIG JOBS such as putting in new clutch parts are part of the work of each trainee.

SETTING DOBBIES and other small jobs that require a lot of skill are part of the training.

were able to run a section temporarily when regular loomfixers were absent.

Some trainees were able to run a section completely after only six months of training. But the usual training period was 12 months. In addition to training much-needed loomfixers, this method put the looms back in good mechanical condition quickly.

Written Instructions Help

Along with the training program, setting instruction sheets and loom gauges were made for all on-the-job loomfixers in the mill. An instructor taught the experienced loomfixers how to use the gauges and how to set up all loom motions. Each loomfixer was given individual instructions.

Each fixer was given a set of gauges, and he was required to use them. The gauges included these standard Draper gauges: (1) lay gauge, (2) pick-timing gauge, (3) shuttle-feeler gauge, and (4) lug-height gauge.

A multipurpose gauge to be used for about 30 different settings was also given to the fixers. The gauge is a modified design made somewhat like the Draper shuttle-box gauge. The gauge is used to set the Midget feeler, filling-motion parts, shuttle boxes, thread cutters, protector motion, and other parts.

Second Program Ties In

Another program for training loomfixers has been used at the mill for several years. It is under the direction of the State Department of Education, Division of Vocational Services. The annual enrollment is about 80 mill employees. Classes are held in a class room in the mill. A Draper X-2 loom has been constructed from spare loom parts and is used to train loomfixers. The learners tear down the loom and rebuild it several times during each school term.

There is always a list of applicants waiting for the fixer training course. The average applicant chosen has to meet the following requirements: (1) be employed by the company at least three years, (2) have a good attendance record, (3) have an above-average work record, (4) be willing to accept a temporary cut in pay while learning, and (5) will accept any section in the mill on any of the three shifts when the training period is completed.

Personal Qualities Needed

There are, of course, other personal qualities needed that training cannot provide. They include physical and mental ability, ambition, dexterity, reliability, and personality.

LOOM-GAUGE SETTINGS are the final step in training. Now the trainee is ready for a section.

We think that it takes a good weaver to make a good loomfixer, and therefore the trainee must learn to weave first. There are several reasons for requiring loomfixers to become weavers first: (1) weavers understand the action of the loom and how the yarn and machine are correlated; (2) fixers who have woven understand weavers' problems better; (3) while he is a weaver, the potential loomfixer becomes production conscious and therefore tries to keep downtime for repairs to a minimum after he becomes a loomfixer; and (4) weaving requires and helps develop patience, control of temper, energy, quick physical reactions, and mental stability.

Program Is Successful

The training program has been very successful; we haven't hired a loomfixer in the past six years. During this time, 30 men trained within the mill have been placed on sections; and several other men are ready for sections as soon as jobs are available.

Here are some interesting figures about loomfixers in our mill: (1) the average age of the 102 loomfixers presently employed is 38 years, (2) the average years of continuous service with this company is 12, and (3) the annual labor turnover rate is less than 5%.

Abbot's New WORSTED-YARN Mill

One of the newest worsted-yarn mills in the country, the Abbot Worsted Co. mill in Seneca, S. C., reflects modern thinking in terms of high productivity, low maintenance costs, and good labor relations. Features include—

- **A labor-saving conveyor system**
- **Low-cost heating with modern boilers**
- **American- and modified-Bradford-system processing**

By MICHAEL LONDON, Assistant Editor, TEXTILE WORLD

THE ABBOT WORSTED CO. MILL, located about 1¾ mi. north of Seneca, S. C., is one of the newest worsted-yarn mills in the country. Construction throughout reflects modern thinking in terms of high productivity, minimum maintenance, and good labor relations.

The Seneca-mill operation begins with top and ends up with yarn spun from 36s- to 70s-quality wools, mohair, rayon, Orlon, nylon, Dynel, Acrilan, and acetate on the modified-Bradford and American systems. Yarns, both single and ply, go into knitted and woven fabrics and tufted rugs and carpets. Abbot makes sales yarn and does commission spinning; so it requires a highly flexible operation.

About 300 employees work on three shifts. All shifts have an overseer for each system, and there is one overseer of maintenance (master mechanic). With an annual payroll well over $500,000, the mill employs approximately 60% women and 40% men. Most of the workers have had some cotton-mill experience but have had no previous worsted-processing experience.

ENGINEERING Highlights . . .

The structure, built by Daniel Construction Co., Greenville, S. C., comprises about 95,000 sq. ft. The windowless building has a reinforced-concrete precast roof slab insulated with 2 ins. of glass fiber. Glazed-tile walls in the production areas require only a weekly wiping down for complete maintenance.

Air conditioning keeps conditions at 78 to 80° F. and 55 to 65% r.h., depending on the stock being run. A 300-hp. compressor in the boiler room refrigerates water that goes into two washer rooms, one on each side of the mill. In the washer rooms, the cold water saturates and cools the air going to production areas. Supplementary humidification is available when necessary. Usually, Abbot uses a different humidity for each system.

Three sets of controls and constant attention compensate for any drift of conditions and allow the mill to maintain the two different conditions. During winter, steam from the boilers heats the air in the washer rooms to warm the mill. The office and laboratory areas have individual air-conditioning units.

The entire mill has Kalman hardened-concrete floors. Asphalt tile covers the office, laboratory, and cafeteria floors; and the washrooms have ceramic-tile walls. Fluorescent lighting is used throughout the mill.

Boilers Require Little Care

One 100- and one 200-hp. package-type boilers, made by Cleaver-Brooks, provide the necessary steam. The boilers burn the most inexpensive fuel oil available. They provide heat for warming the mill and dehumidifying. Instead of using a hot-water heater, Abbot uses the boilers for hot water.

Each shift, an electrician in the maintenance department looks after the boiler. These men spend about 2 to 3 hrs. checking the boiler, in addition to their other duties. The boilers are used alternately every three months. While a boiler is idle, it is taken down, inspected, and cleaned. The extra boiler allows a unit to be always ready for official inspection.

The building is divided into a shipping, receiving, and warehousing area; a maintenance area; two production areas, the 400-ft.-long American-system department and the 300-ft.-long Bradford-system department; and an office and canteen area. Three trucks fit into the shipping-dock area.

Conveyor Prevents Pile-Ups

A conveyor on the American-system side delivers sliver from the pin drafters to the roving creels and eliminates the need for operators to move the cans between these operations. The system consists of wire frames, which hold the cans, traveling on a continuous track. The cans move behind each roving frame, within 3 ft. of the roving creels, and by the pin drafter. Traveling at 30 ft. per min., the conveyor has a capacity for approximately 200 cans.

Empty cans from the roving frames are turned upside down to indicate that they are empty and prevent any waste from falling into the cans. There is no pile-up of cans at the roving frames. The operators use the cans as

they are needed. The operator at the pin drafter sets the can on the conveyor as soon as he doffs his machine. Empty cans are removed at the duo-head pin drafters and moved by hand to the back of the quad-head units.

In the warehouse, top is stored in box pallets stacked four high by fork trucks. A hinged door on the end of each box allows top from any box in the stack to be removed for inspection. Removal of the top for processing is also made easy by the hinged door.

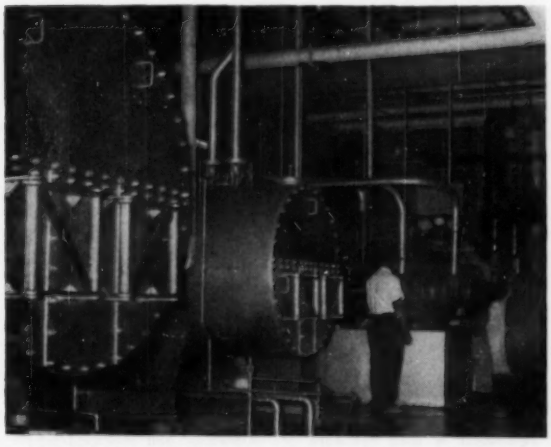
Faller-Pin Repair Done at Mill

A well-equipped machine shop is available for maintenance. One section of the shop contains a room where cots are buffed or replaced and fallers are repaired.

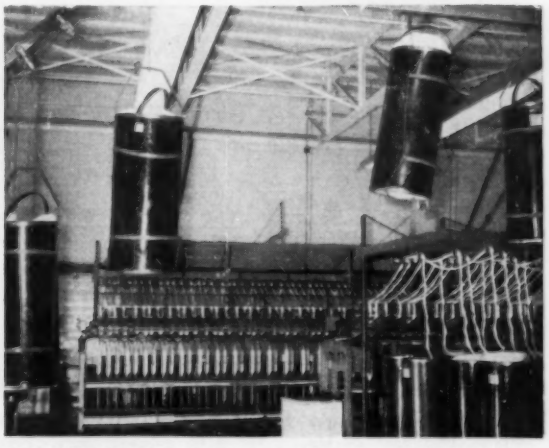
Every shift, a maintenance man removes the fallers from each machine and replaces them with reconditioned faller units. He cleans the units removed and examines them for bent, broken, or dull pins. Any units in need of repair are sent to the repair shop, where the repair man replaces the bad pins.

Faller-pinning right at the mill gives better control of the fallers. The spinning-room section hands replace the cots that need repair.

WASHER ROOM receives refrigerated water, which saturates the air to cool the mill. Abbot has two washer rooms and a 300-hp. compressor in the boiler room.



TWO BOILERS, which burn inexpensive fuel oil, provide heat for warming and dehumidifying the mill and heating water. The package-type boilers are used alternately every three months.



CONVEYOR SYSTEM delivers sliver from the pin drafters to the roving frames. The cans move behind each roving frame within 3 ft. of the creels.

BOX PALLETS containing top are stacked four high by fork trucks. A hinged door on the end of each box allows top to be removed.

FALLER PINNING is done in a room in the shop area by Robert Simms. Faller repairing at the mill gives better control of the fallers.

PROCESSING Highlights . . .

Production capacity of the American system is 40,000 lbs. of yarn per week, based on an average yarn number of 1/24s. American-system yarn numbers range from 14s to 50s. Bradford-system capacity is 30,000 lbs. per week, based on an average number of 1/12s. Bradford yarns run from 1s to 24s.

The Bradford system and American system both have common blending equipment: six Saco-Lowell intersecting baller gills. Sliver weight is generally 3 oz. for wool, 5½ oz. for mohair, 3 oz. for rayon, and 4 oz. for coarse wools.

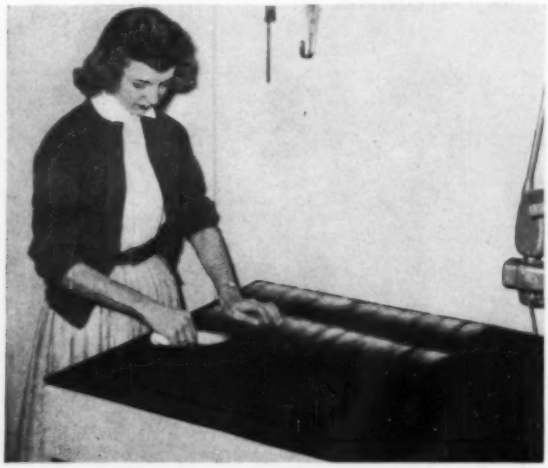
Bradford drawing equipment consists of three can gills, six duo-head pin drafters, four flyer reducers, and, for finer counts, flyer rovers. There are 3,600 spindles of Bradford-spinning equipment. A 5- to 6-oz. bobbin is produced on the Bradford spinning frames.

The American system has five operations. American drawing equipment consists of 4,800 spindles of Saco-Lowell equipment, which produce a 7-oz. bobbin.

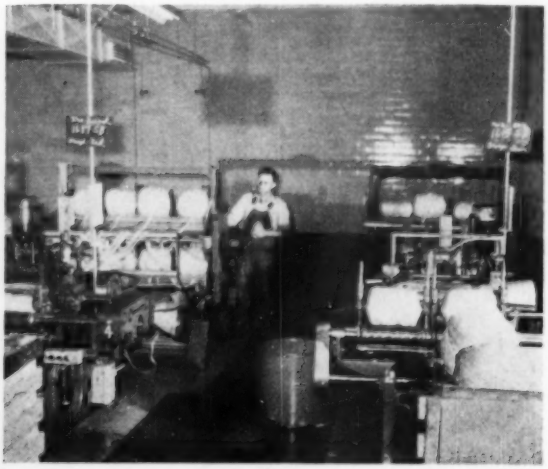
Twisting equipment handles yarn from both systems. There are 800 spindles of Saco-Lowell ring-twisting equipment, 2,200 spindles with dolly rollers, and a 100-spindle Universal twister for three- and four-ply yarns.

Five Universal Roto-Coners and two Foster winders handle the winding. Reeling is done on Fidelity reels.

The material coming from each machine is tested every day. The laboratory runs 10 to 25 yds. of stock from every head through an evenness tester. If evenness is outside the set limits, the machine is stopped and corrected. The lab rechecks the material after the machine settings have been corrected.

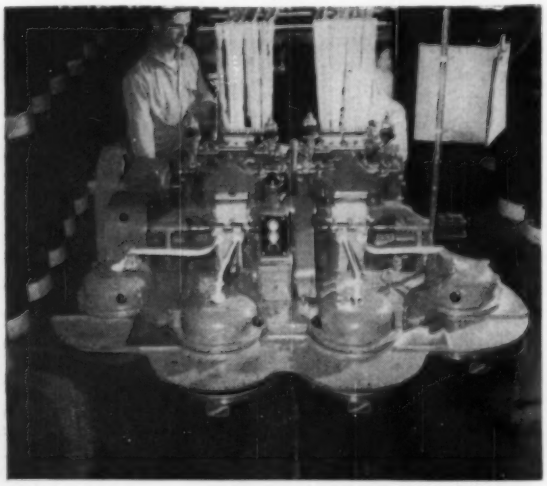


LABORATORY checks stock for moisture, evenness, and weight. Material from each machine is tested for evenness daily. Here, Jeanette Albertson is preparing a nep count.

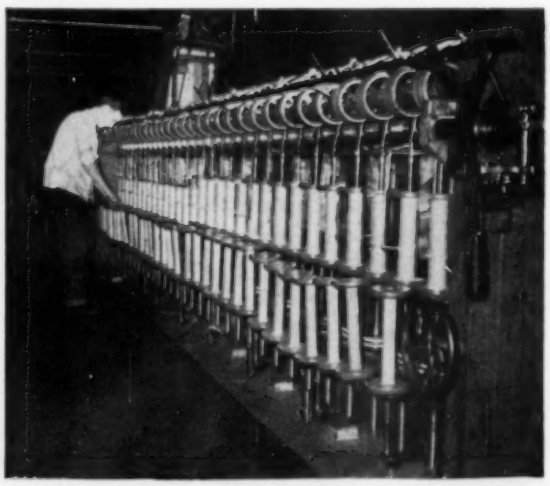


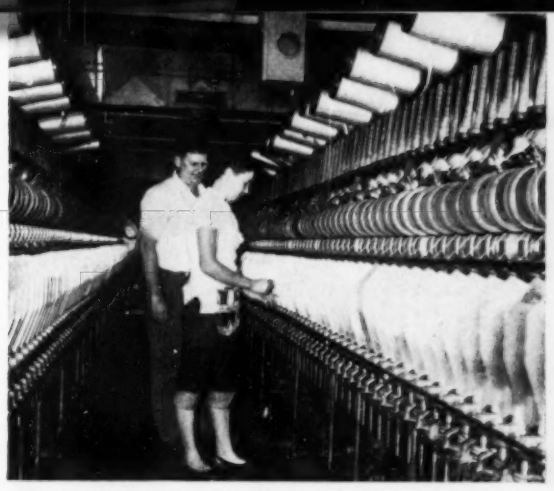
BLENDING EQUIPMENT consists of six Saco-Lowell baller gills. This equipment is used for both the American and modified-Bradford systems.

PIN DRAFTERS are used for the American and Bradford systems. The American system has four duo-head and four quad-head units, and the Bradford has six duo-head models.

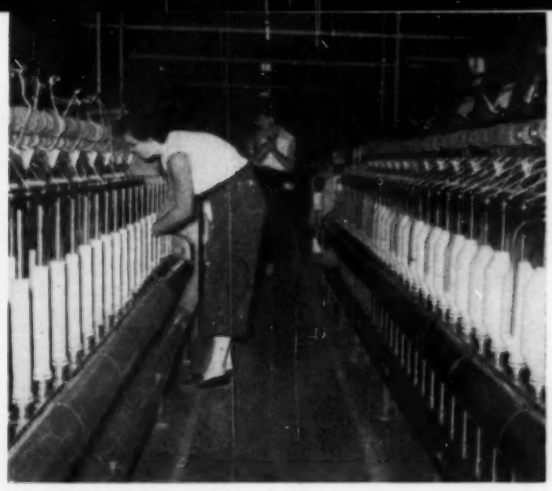


BRADFORD REDUCERS follow pin drafters. There are four such units at the mill. Yarn numbers produced on the Bradford system range from 1s to 24s.



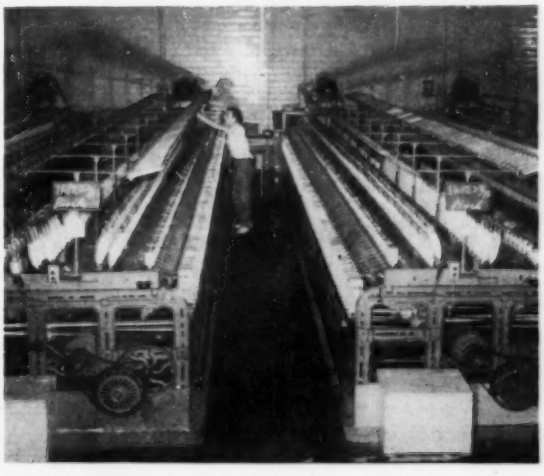


BRADFORD SPINNING FRAMES produce a 5- to 6-oz. bobbin. The mill has 3,600 spindles of Bradford spinning equipment, with a production of 30,000 lbs. per week.



AMERICAN-SYSTEM roving frames follow the pin-drafting operation. These frames produce roving for 4,800 spindles of Saco-Lowell spinning equipment.

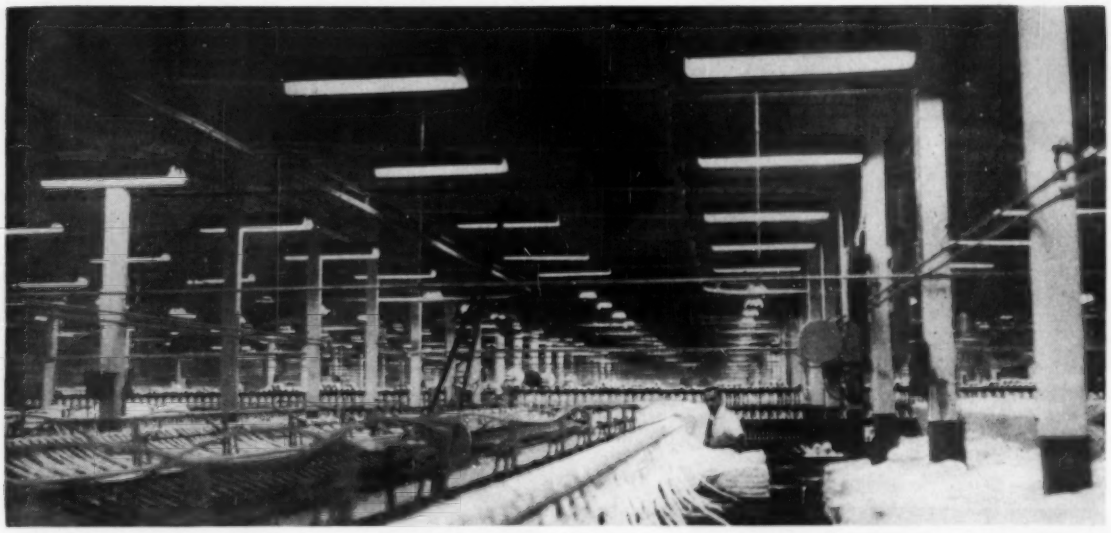
AMERICAN-SYSTEM SPINNING FRAMES deliver yarn numbers ranging from 1/14s to 1/50s on 7-oz. bobbins. Capacity on the American system is 40,000 lbs. per week.



DOLLY TWISTERS comprise the bulk of the twisting equipment. There are approximately 3,100 twisting spindles, which handle the yarn coming from both systems.

WINDING EQUIPMENT consists of five Universal Roto-Coners and two Foster winders. Yarn produced by both systems is handled on the same twisting and winding equipment.

FIDELITY REELS are used to put the yarn on skeins. Each package of yarn is examined before it is hand-wrapped and placed in containers for shipment.



LIGHTING in production areas is furnished by alternate rows of old and new fixtures.

LIGHTS Needed Tomorrow Are Planned Today

• Just one year ago, the lighting system for this spinning mill was below par. Today, it's ready to take on all lighting demands for a long time

By **JAMES W. WARD,** Head of Electrical Engineering Div., Avondale Mills

A COMPLETE NEW LIGHTING SYSTEM was installed in the Lafayette Plant of Avondale Mills, Lafayette, Ala., in 1955. The system is arranged for present lighting demands but is planned so that higher lighting requirements can be met by simply hanging new fixtures.

The installation of an air-changing system in 1951 left the mill lighting below par. Glass windows were replaced with brick when the air conditioning was installed, and the brick enclosure shut out the daylight that helped light the plant.

The level of illumination in the mill was already low; but during the day, outside light kept the mill at a relatively high level of illumination. At night, the contrast between the outside areas of the mill gave the illusion of good lighting.

The mill is 100 ft. wide and 448 ft. long for a total area of 44,800 sq. ft. The mill has 10,200 spindles.

Lighting Was Obsolete

The old lighting system consisted of one 50-kva. 120-240-v. transformer located on a platform outside the mill. The transformer was supplied from an old two-pole oil circuit breaker that also supplied the transformer for the mill village. There was a 6.9 kva., 550-v., three-phase, 10% raise-or-lower, voltage regulator.

The 120-240-v. line came from the transformer to a lighting panel on the switchboard. Knife-blade switches and fuses on the panel supplied each circuit to the mill lights. Each circuit supplied one of three circuit-breaker panel boards installed about seven years ago. Several small loads were supplied through fused disconnects mounted on the switch-room wall.

The luminaires were two- and three-lamp, 40-w. fluorescent fixtures with fibreboard reflectors. These luminaires were installed soon after World War II in place of old fixtures without a change in wiring. The fixtures were constructed with a minimum of metal, and the fibreboard reflectors have a poor reflective factor. The luminaires were operating satisfactorily, but there were not enough of them.

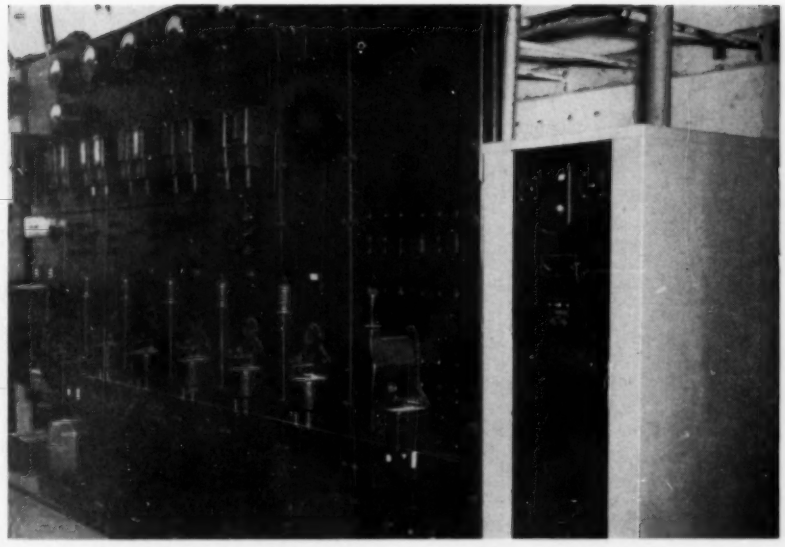
The voltage regulator, transformer, and most of the 120-240-v. wire and conduit had been in use over 25 years. The wiring was giving trouble. There were only a few plug receptacles. The level of illumination in the mill varied from 3 to 12 ft.-c.

Lighting-cost estimates showed that the cost of new luminaires would be 35% of the total lighting installation costs. Therefore, we decided to use our old luminaires with new ones to supplement them. This decision cut the total lighting costs 20%.

Combine Old and New

The new luminaires consist of 130 units of two 90-w. lamps each. They are grouped with the old units. We now have a uniform level of 25 ft.-c. from winding through drawing and 10 ft.-c. in carding and picking.

The old luminaires still have a few years of useful life but will eventually be replaced. When one fails, we replace it with a new unit. This practice, of course, raises the level of



SWITCHBOARD feeds the lighting circuit breaker and voltage regulator.

illumination. Therefore, the light value will be raised gradually. Because the recommended levels of illumination are increasing steadily, our system to raise the light value without any change in wiring is an asset.

Work on the lighting project began Feb. 4, 1955, and was completed May 1, 1955. The work was done under the general supervision of George Mims, mill superintendent, and under the direct supervision of Dan Cosper, master mechanic. The installation included 360 fluorescent luminaires, 30 duplex receptacles, 20 floodlights, 12 toggle switches, and 22 watchman lights.

Production Wasn't Disturbed

The work was done from Wednesday through Sunday. Old wiring and conduits were removed during weekend shutdowns, and consequently there was no loss of mill production from power interruptions.

Only a small amount of work was done over production machinery while it was running because the overhead cleaners and energized tracks interfered. Wall installations such as conduit, wire, switch, and panelboard mounting were made during the week. Work outside the production area was also done during mill production hours since the work did not interfere with production.

Safety switches were installed on the switchroom wall to supply the existing power loads. The lighting panel on the switchboard and voltage regulator were disconnected. The knife blades and fuses were removed from the panel, and the voltage regulator was removed from the switchroom.

Modern Feeding Equipment

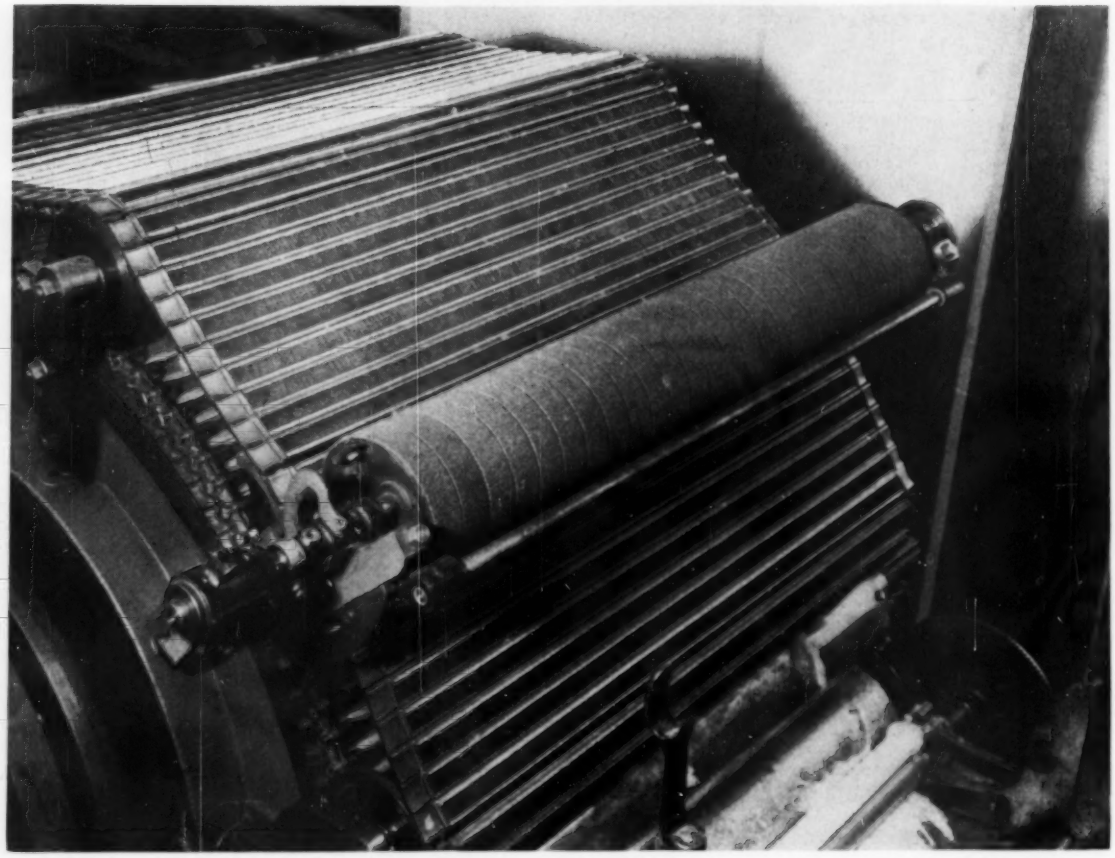
A three-pole oil circuit breaker was installed on the lighting panel and connected to the switchboard bus. A new induction voltage regulator, 26-kva., 600-v., three-phase, 10% raise-or-lower, indoor dry-type, was set beside the lighting panel.

A 2½-in. conduit line with three 250-MCM cables was run from the switch room into the mill. From a junction and 200-amp. safety switches, 2-in. conduits run the length of the mill. The conduits carry three No. OO cables.

Two 50-kva. and two 25-kva., 60-120-240-v., OISC transformers are supplied from the 2-in. conduits through 100-amp. safety switches. These transformers are hung on the wall outside the mill. The panel boards

CONTINUED ON PAGE 196

FLOODLIGHTS (arrow) are placed all around the mill 80 or 90 ft. apart.



DRUM GRINDER for flats must be true to prevent grinding high and low spots. Best grinding is done with No. 40 emery.

CARD-FLAT GRINDING
For Lower-Cost, Better Sliver

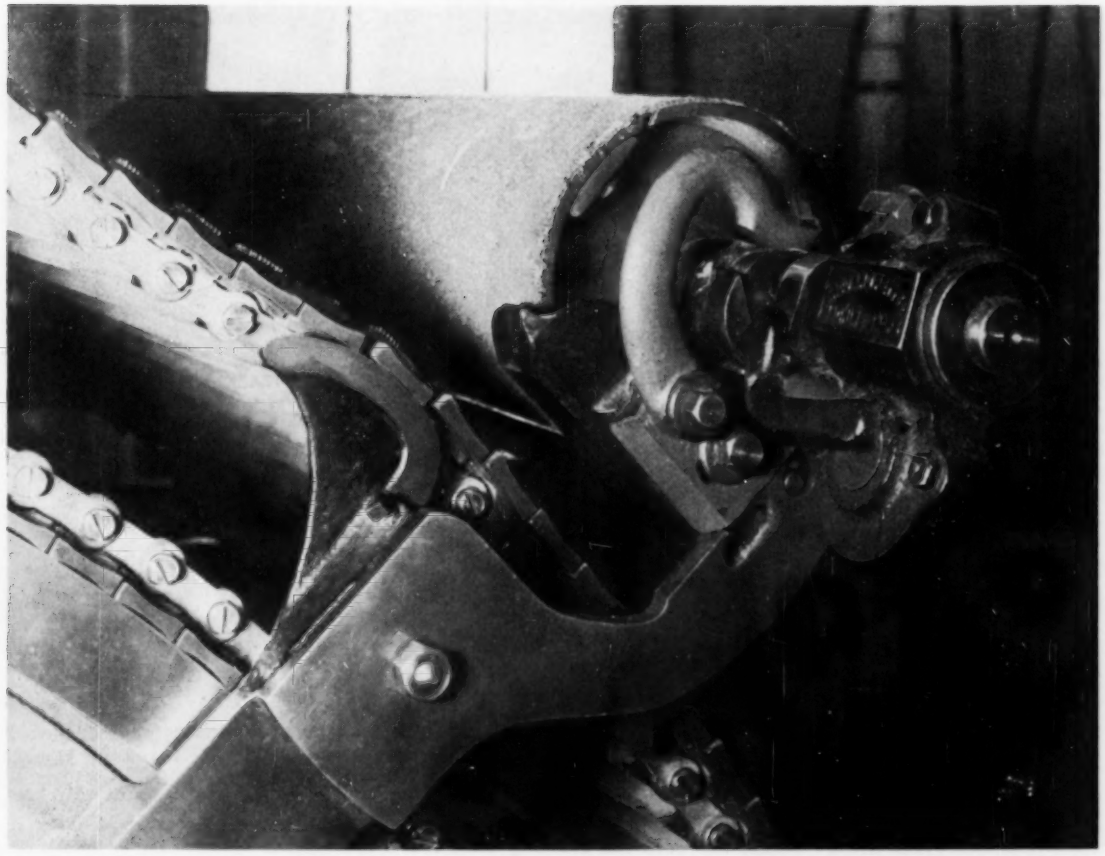
The secret of long flat life is light grinding repeated on a schedule that keeps the wire sharp. Poor grinding schedules cost money in the long run. This article tells why flats require proper care and how to grind them properly.

By A. L. LANDAU

CAREFUL, CONTROLLED GRINDING of card flats, one of the earmarks of the well-managed card room, reflects upon the operation of the entire mill. The secret of long flat life and good sliver is light grinding repeated on a schedule that keeps the wire constantly sharp. This type of grinding is not expensive, and it will actually pay dividends in reducing the total cost of the card room.

Flat wire must be ground; this is an inescapable fact. Far too many mills regard this grinding as a maintenance task that deserves only a minimum amount of time. Looking at only the obvious grinding costs—cost of schedule, lost card production during grinding, grinding material, supervision, general overhead, and depreciation—they set up grinding schedules that prevent frequent attention to the individual card. By the time the card is ground again, the wire, badly worn, requires the removal of a considerable amount of expensive metal to attain satisfactory sharpness.

The card grinder, already working with too many cards on a tight schedule, finds himself in another quandary:



CARD HORNS that support the drum cradles should be perfectly in line across the card or there will be uneven grinding from side to side.

he has to recondition abused flat wire, but his schedule is so tight that now he doesn't have time to grind the wire lightly. In many cases the heat generated by heavy grinding destroys the temper of the wire tip.

Lean Towards Overmaintenance

Actually, the most economical way to run a card room is to lean towards overmaintenance. Adequate maintenance shows up eventually in the form of increased sliver and yarn quality, increased production, and prolonged machine life.

Adequate maintenance entails more than management's decision to employ enough grinders and fixers to follow a sensible schedule of grinding and setting cards. There must also be the wholehearted, careful supervision of their work by section men, overseers, and the superintendent. If spot-checks of card settings are made almost every day by the overseer and superintendent, the maintenance crew will respond by following a scrupulous routine and keeping each card in perfect condition.

Management may also have another bitter pill to swallow when it adopts such a program: generally, money must be spent to recondition machines. The logical way to set a card room back on its feet is to initiate a detailed survey of each card. This survey must list, item by item and part by part, the condition of each card.

Reconditioning should be complete or the room will again return to the previous neglected condition. Running a new part in tandem with a partially worn part will soon ruin the new one. Worn gears mating with new gears, new flats on worn chains, and new pulleys or gears on undersize studs and shafts are examples of wasteful halfway measures.

Flat care is a major part of maintenance, essential to the success of the total program. Card flats will continue to operate regardless of their condition, and only scrupulous supervision can keep them in a condition to do high-quality work. Correct care of flats is mainly a problem of proper grinding.

In flat grinding, the horns of the card that support the drum cradles must be kept perfectly in line across the width of the card. If the horns are not lined up, the drum grinder will cross the card at an angle, and the flats will be ground unevenly from side to side. This unevenness will make it impossible to set the flats correctly.

On one side the flats will be set too close and on the other, too far. The close setting, because of the possibility of contact with the cylinder, endangers both sets of clothing. With the open setting, the flats will not do their job properly and will cause lower sliver quality with a higher nep count.

The setting differences will also tend to deflect the air currents that are so important in the carding function. The distorted air currents will tend to swing to one side of the card and reduce the carding quality. Fibers, carried with the current, will roll to the open side of the card where the carding action is less effective.

Keep Drum Grinders True

Drum grinders should be considered

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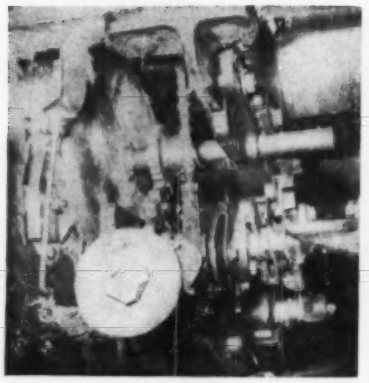
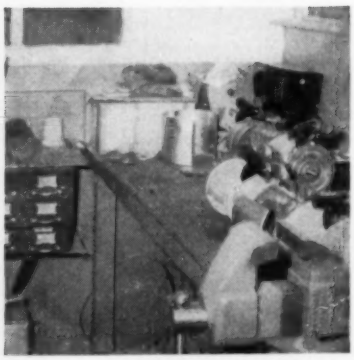
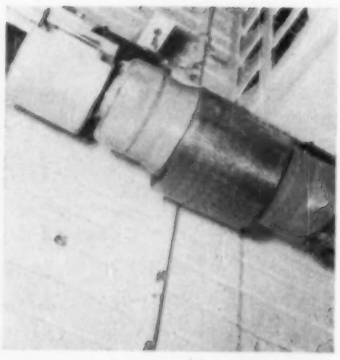


AUTOMATIC BUILDER bears the frame down and rewinds the traverse. It has a bunch builder. The builders have eliminated tangled yarn caused by frames overrunning.



REPAIR SHOP is located just outside the spinning room. The shop, operated by Chester Moody, second-shift section man, contains all the necessary tools and replacement parts for underframe cleaners.



TEST TRACK for underframe cleaners is mounted on the ceiling of the repair shop. When a cleaner has been repaired, it is run on the test track to determine its serviceability.

SPINNING Improvements Pay Off at Scottdale

Modernization at Scottdale Mills has led to a better-operating spinning department with lower costs and higher quality. Results—

- **Automatic builder eliminated tangled yarns**
- **Underframe cleaners cut week-end cleaning costs $50**
- **Ceiling cleaners reduced cleaning costs up to $100 per week**

By MICHAEL LONDON, Assistant Editor, TEXTILE WORLD

MODERNIZATION of the spinning room at Scottdale Mills, Scottdate, Ga., has led to a better-operating department with lower costs and higher quality. Scottdale produces corduroy and osnaburg. Yarn numbers for osnaburg are: warp, 9s; filling, 6 to 8s. For corduory, they are: warp, 15s; filling, 20 to 25s. The spinning room produces about 160,000 lbs. of yarn per week.

The osnaburg mix consists of 40% card strips and 60% low-grade cotton of 1 1/16-in. staple. Staple length for the grade of cotton used for corduroy is 1 3/32 ins. About two-thirds of the mill's production is osnaburg and one-third corduroy.

As part of the modernization program, 40 Whitin Model A filling spinning frames were overhauled. The department installed chain drives in the heads to replace gears and added ball-bearing cylinders, automatic oiling, and automatic builders. As the mill makes changes in the weave room, filling rings are being changed from 1 3/4 to 1 7/8 ins. to allow the use of larger packages.

Scottdale has found the automatic builders on the filling frames highly successful. The builder bears the frame down and winds the traverse; it also has a bunch builder. By stopping the frame and lowering the traverse, it eliminated the need for the spinner or doffer to watch the frame closely for the end of the cycle and stopped tangled yarn caused by frames overrunning. The more-positive control gives a flat, even bunch at the butt end of the quill.

The knock-off can be set to operate at any point of the build. Since the frame will stop at this point every doff, the yardage on quills is controlled very closely.

Working with the new builders was a problem at first, for it was necessary to train the section men. A trial stand with one or two spindles and a builder was set up for training, and the men soon learned to work with the device.

The short-staple cotton used at Scottdale has always posed a cleaning problem. To combat this situation, the mill installed American Mono-Rail underframe cleaners on 32 Whitin F2 and F warp frames. The frames are 4 1/2-in. gauge, 2 3/4-in. ring, with a 10-in. traverse and 4-in. gauge, 2 1/2-in. ring, with an 8 1/4-in. traverse. Frames without underframe cleaners have to be blown out weekly; those with cleaners are not touched. The department figures the underframe cleaners save $50 per week in week-end cleaning costs.

Repair Shop Keeps Cleaners Operating

To properly maintain the cleaners, the department built a small repair shop just outside the spinning room. The second-shift section man operates the shop, which contains all the necessary maintenance tools and replacement parts. There is a test track mounted near the ceiling on which

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Transfer-Dyeing Method Can Be Used For ACRILAN-WOOL Blends

Acrilan-wool blends can be dyed to excellent unions in fast shades by a dye-transfer method developed by Chemstrand Corp. Several classes of dyes work well when:

- **The bath contains leveling agents that decrease the rate of wool dyeing**
- **Dye-transfer is promoted by low pH and continued boiling**

By **WALTER H. HINDLE,** Associate Director of Research, Chemstrand Corp.

THE DYEING RATE OF ACRILAN is much slower than that of wool at low temperatures and becomes appreciable only above 180° F. Furthermore, to do more than dye the surface of the fiber it is necessary to use a strong mineral acid. Consequently if wool dyes—even level-dyeing acid dyes—are applied to Acrilan-wool blends by customary wool-dyeing procedures, the dye will exhaust onto the wool before the Acrilan is little more than stained.

The affinity of Acrilan for wool dyes is such that in time the dye will boil off the wool onto the Acrilan; but if only acid alone or acid and common wool leveling agents are used, the time required for this transfer is too long to be practical. The addition of anionic surface-active agents or resists having affinity for wool is ineffective because these materials have a great affinity for Acrilan.

Certain nonionic leveling agents used with premetallized dyestuffs that have affinity for the dye rather than for wool promote leveling by reducing dyebath exhaustion. These substances are only partially effective in producing Acrilan-wool unions.

Cationic Assistant Needed

What is needed is a substance that will decrease the initially rapid dyeing rate of wool without greatly reducing the final dyebath exhaust. Cationactive dyeing assistance, of the type used in dyeing tippy wool levelly, are quite satisfactory in producing Acrilan-wool unions.

These cationic materials act as a reservoir for the dye by combining with the dye anion to form a water-insoluble complex. This complex dissociates slowly on boiling, releasing the free dye for absorption on the two fibers under conditions where their dyeing rates are more nearly equal. The complex formed between the high-molecular-weight dye anion and the high-molecular-weight cation of the dyeing assistant is often water insoluble.

Without precautionary measures, the insoluble complex might separate from the bath as an oily scum that would produce splotchy dyeing and contamination of equipment.

Nonionic surface-active agents formed by condensing ethylene oxide with alcohols, organic acids, or phenols have been used as dispersing agents for acetate dyes. They are quite effective in dispersing the water-insoluble complex of dye and cationic agent. If polyethylene oxide has been incorporated into the structure of the cationic material, the nonionic dispersing agent in some cases becomes unnecessary.

How Leveling Agents Work

A leveling agent may work in one of two ways: (1) by retarding the initially rapid strike of the dye, it may result in slow, even absorption; or (2) it may improve the redistribution of the dye by increasing the extent to which the dye boils off and transfers from fiber to fiber.

The combination of cationic and nonionic surface-active agents is a very effective leveling agent because it possesses both modes of action. It is by far the best type of leveling agent found for Acrilan, either alone or in blends with wool.

The combination of cationic and nonionic materials possesses another valuable asset: by rendering chrome and milling dyes insensitive to precipitation by strong acids, it greatly increases the choice of colors that may be union-dyed on Acrilan-wool blends. Neutral-dyeing, level-dyeing, and premetallized acid dyes may all be applied in the same manner or all together at the same time, if desired.

Dye Transfer Is Rapid

The real versatility and effectiveness of this combination of assistants in dyeing Acrilan and wool is the rapidity with which it promotes transfer of dye from wool to Acrilan. This effect is shown strikingly if the dye is first exhausted onto wool with ammonium sulfate or formic acid. To the exhausted dyebath, which may be nearly water-white, the cationic and nonionic agents are added, along with 6 to 8% sulfuric acid, in two portions. The dye now readily transfers from wool to Acrilan, and a good union is obtained after 2 hrs. at the boil.

Because the dyeing rate of Acrilan is strongly dependent on acid concentration, 6 to 8% sulfuric acid is necessary to give sufficient transfer for a satisfactory union with most colors in 2 to 3 hrs. With a liquor-to-fiber ratio of 30 to 1, the final pH is less than 2.0. The rate of transfer and the time required to produce a satisfactory union can be controlled by varying the amount of acid or of cationic material used.

Chrome dyes, metallized acid dyes, or neutral-dyeing and level-dyeing acid colors may be applied by this procedure. Because the dyeing rate of Acrilan increases with acidity, the dyeing time will be minimized if the initial acidity of the bath is as high as consistent with the nature of the dyestuff and its sensitivity to acids.

Process Is Practical

The conditions suitable for union dyeing insure complete fiber penetration by the dyestuff. Fiber penetration not only produces more satisfactory

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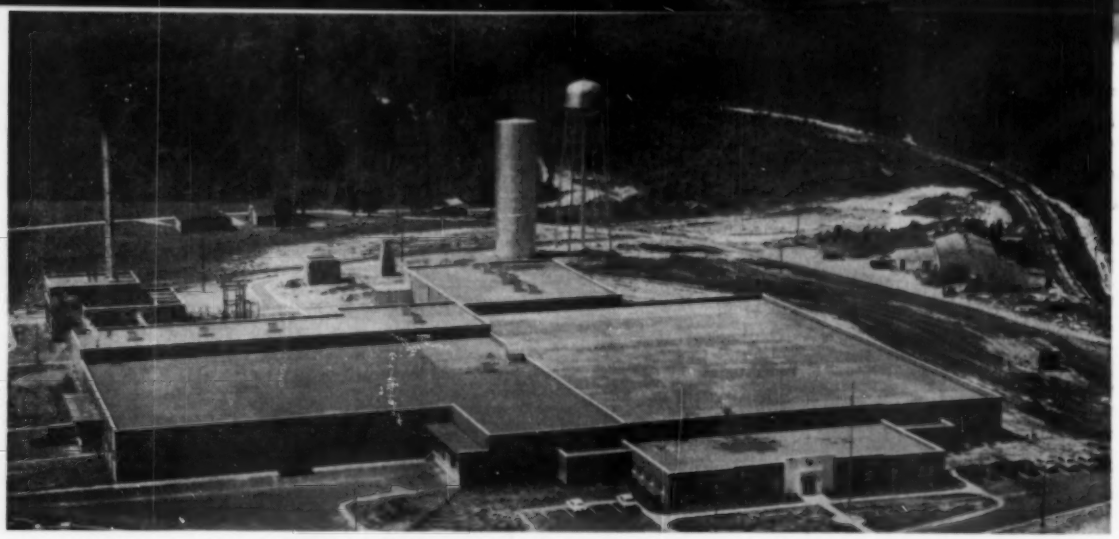
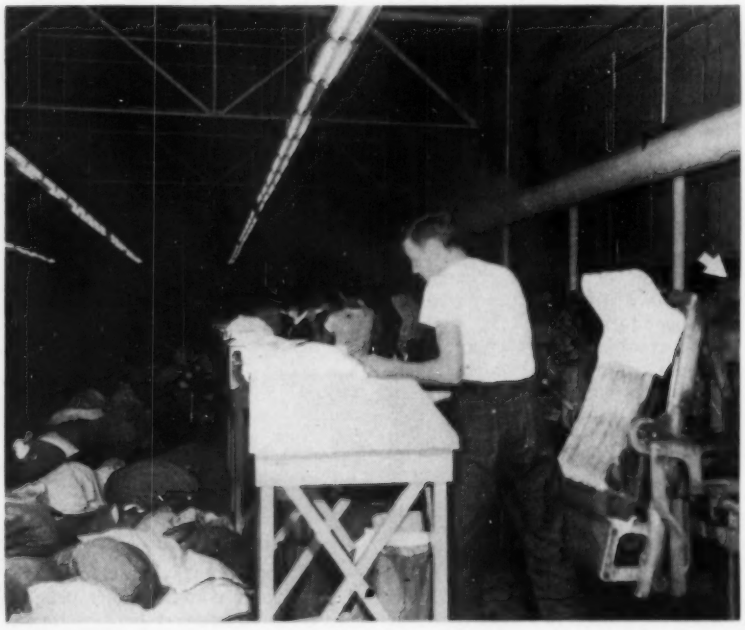


THIS BURLINGTON HOSIERY-FINISHING PLANT is arranged so that the hot processes such as preboarding, dyeing, and boarding are at the rear of the plant near the powerhouse. These rooms have high ceilings with large fans to remove excess heat.

A Look at a Burlington HOSIERY-FINISHING Plant

• To economically obtain the most pleasant working conditions in this new hosiery-finishing plant, the preboarding-room air is constantly changed, the boarding room is air cooled, and the pairing and examining section is air conditioned

By JAMES H. BLORE, Associate Editor, TEXTILE WORLD



PREBOARDING room is kept cool with large fans in the ceiling that draw air through the space in the partition (arrow).

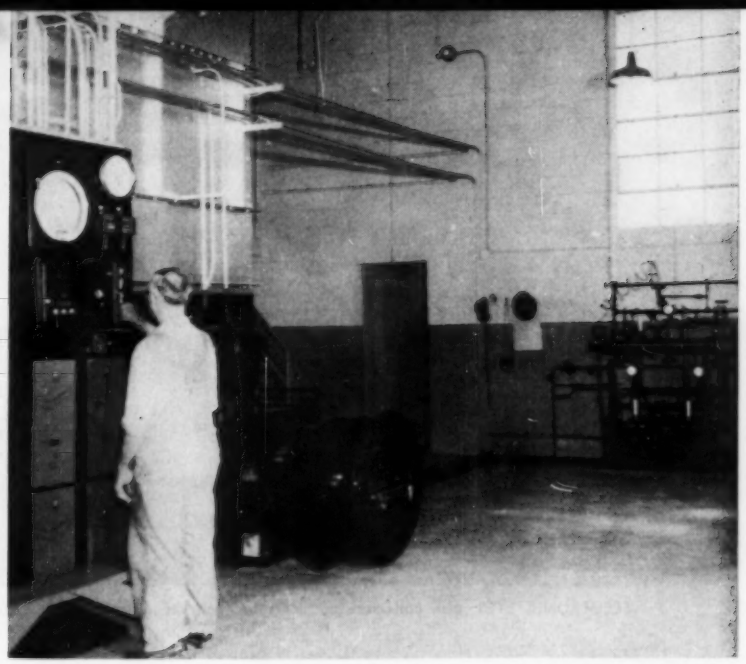
WHEN THE NEW FINISHING PLANT of Burlington Hosiery Co., member of Burlington Industries, Inc., was planned at Asheboro, N. C., much consideration was given to providing a pleasant building to work in. The plant was completed in December, 1953; and dyeing and finishing of men's and boys' hosiery and anklets commenced immediately.

The single-story plant, constructed of concrete block with red-brick facing, occupies 150,000 sq. ft. in the center of 26 acres of rolling meadow and woodland 5 mi. north of Asheboro. Because of its rural location, management thought that labor might be hard to get; but many workers today travel 20 or 30 mi. to work, and several hundred applications for work are received each month.

Materials Flow Clockwise

The plant is divided into four main sections: the preboarding room and the dyehouse, the final boarding room, the pairing and storage section, and the shipping room. Materials flow in a clockwise direction.

HEATING UNIT over the doors at the receiving dock are automatically switched on each time the doors are opened.



POWERHOUSE has two 300-hp. oil burners that use bunker C fuel that is pumped from tanks outside.

Steam is supplied for heating and processing from a powerhouse away from the main building but close to the dyeing and boarding sections. Two 300-hp. oil burners supply the heat for the whole plant. These furnaces burn bunker C fuel pumped from an outside tank. A gauge inside the boiler room indicates the level of the fuel in the tanks.

Brine for the dyehouse is made in the powerhouse. Salt is delivered by the truckload and dumped into a large hopper. This hopper feeds the salt to a brine-making tank from which the brine flows to a storage tank controlled by a float valve.

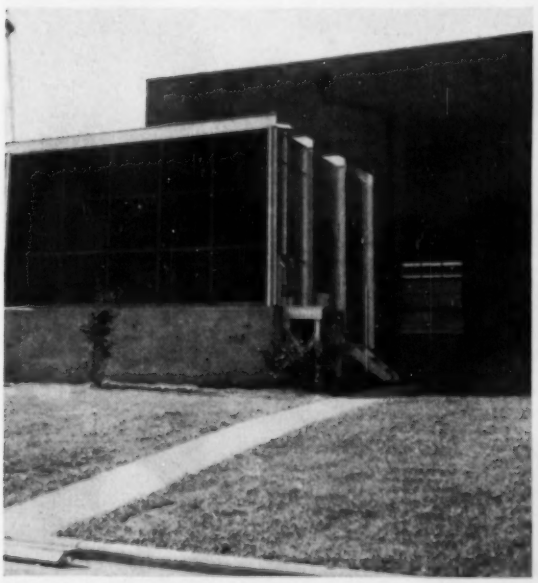
Two large tanks maintain a constant water supply. A 500,000-gal. tank serves as the main supply, but a 100,000-gal. tank is reserved for fire protection. All water passes through a water-softening system.

Walls throughout the plant are painted in various pastel shades. Each department has its own color scheme with pale green the dominating color.

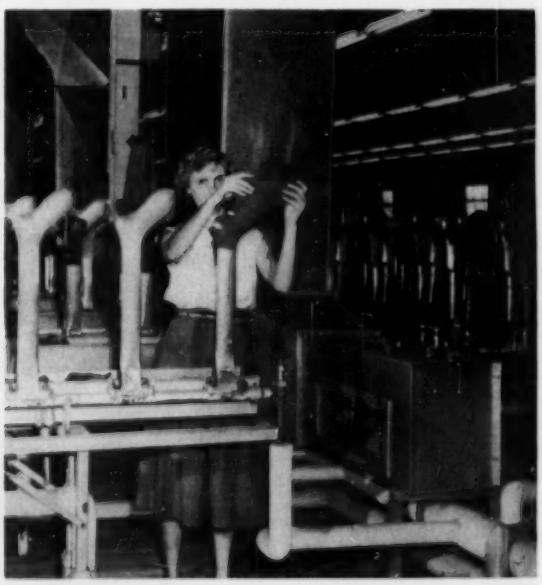
Light Is 25-Candle Power

More than 5,000 fluorescent tubes are used to maintain about 25-candle power over working areas. Fixtures are laid out to eliminate blind spots. Two maintenance men tour the plant one day each week to replace burned-out lamps.

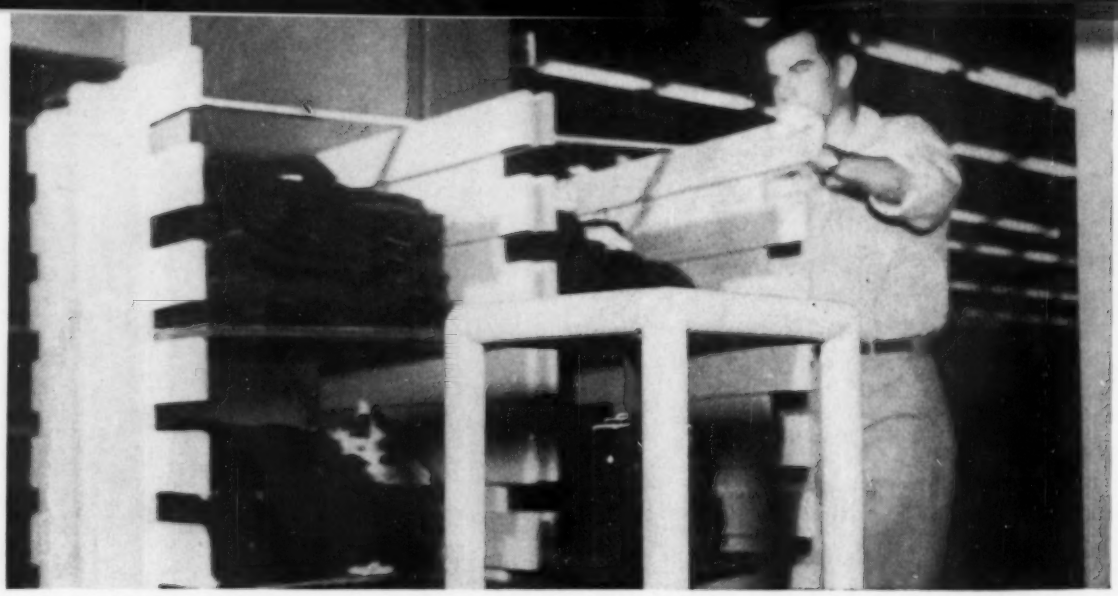
All doors throughout the plant are opened and closed with electronic eyes. →



AIR-COOLING unit outside the boarding room constantly supplies washed air to all parts of this section.



ALUMINUM DUCT WORK carries the washed air to each boarder's alley. Louvers at the outlet are individually controlled.



ELECTRONIC EYES open and close all doors between the different sections to prevent air leakages and drafts.

Deliveries of hosiery and other materials are made at a receiving platform at the side of the plant. Doors to the receiving platform are automatically opened.

The doors operate a Herman-Nelson heating system with fan-type blowers suspended from the ceiling. The heater outlets point toward the doors. Each time the doors open, the heater is switched on to protect employees and to keep the inside temperature constant.

Gray goods are received in canvas bags and stored in metal racks that are adjustable to different heights and positions for different styles. Hosiery is sorted out in various styles in the racks to await processing.

The preboarding room is air cooled, and temperatures during the hot summer months rarely exceed 98° F. Three large exhaust fans in the ceiling

CONTINUED ON PAGE 147

PAIRING is done in an air-conditioned room on Formica-topped tables. Bell on the table front aids counting.

How To Process DACRON-COTTON Blends

A blend of 65% Dacron and 35% cotton gives a good balance of price and performance. For successful processing—

- **Lubricate Dacron staple that will be subjected to high drafts in roving and spinning**
- **Blend during breaker drawing**
- **Avoid fiber stretching in spinning**

A MINIMUM OF 65% DACRON is required in Dacron-cotton blends to get substantial performance benefits from the synthetic fiber. Both 1.5- and 3.0-den. Dacron in 1½-in. staple are used with cotton to produce various yarn numbers.

Dacron staple as received is in moderately opened condition and does not require treatment in cotton-opening machinery. However, it can be processed in synthetic blenders and opening equipment.

Whenever possible, three or more bales of Dacron should be blended behind the opening or picking line.

Either one- or two-process standard synthetic or cotton pickers will process Dacron successfully. Kirschner beaters open the fibers better and give more-even laps than blade or Buckley beaters.

Staple that will be subjected to high drafts in roving and spinning should be lubricated. About 0.25 to 0.50% of the lubricant, based on the weight of the stock, can be applied by a spray at the picker hopper. For uniform application, two or more spray nozzles should be placed well above the stock as it is being fed into the hopper.

The picker settings shown in the accompanying table are suggested to prevent excessive fiber breakage and elongation.

If laps have a tendency to split during carding, the following picking suggestions may prove helpful: (1) regulate air currents in the cage section so that the bulk of the stock is deposited on the top screen; (2) use split-lap preventers behind calender rolls; (3) increase pressure on calender rolls; and (4) reduce weight on lap pin by decreasing weight on loggerhead mechanism or reducing air pressure if pneumatic loading is used.

Card Dacron Separately

Because cotton and Dacron have different properties, especially crimp and elongation, the fibers should be blended after they are picked and carded separately.

A rayon-type lickerin and a fancy roll are highly desirable for carding 1.5-den. Dacron staple. The 3-den. staple, however, can be carded without a fancy roll if optimum settings are used. These settings normally require a more-open flats-to-cylinder setting, closer doffer-to-cylinder distance, and higher lickerin speeds. Cards, with a fancy, set up according to the accompanying table on card settings will produce excellent sliver from both 1.5- and 3-den. Dacron. With these settings, 3-den. staple has been carded at 8 to 10 lbs. per hr. and 1.5 den. at 5 to 6 lbs. per hr.

Blend During Drawing

Normally, the Dacron and cotton should be blended at the breaker drawing frame by placing two Dacron slivers on each side of two ends of combed cotton. The difference in fiber characteristics causes a wavy breaker-drawing sliver, but the waves will be smoothed out in finisher drawing.

If the cotton sliver tends to wrap on the top front roll, it may be necessary to rearrange the slivers so that both ends of the cotton sliver are fed together in the center. The rearrangement will minimize any unequal tensions in the web and produce a more-even sliver. The tube gear in the coiler head should be kept as clean as possible to minimize coiler-head jams.

Blends have been processed satisfactorily on both three-over-four and four-over-four drawing frames. Both breaker and finisher drawings are usually necessary to prepare a suitable sliver with a homogeneous blend for the roving frame.

Here are the recommended settings for three-over-four drawings: first to third roll, 3 ins.; third to fourth roll, 1¼ ins. For four-over-four drawing, settings are: first to second roll, 1⅜ ins.; second to third roll, 1¾ ins.; third to fourth roll, 1⅞ ins.

Excellent slivers have been produced with a 1¾-in.-dia. front roll running at approximately 325 rpm. Tension must be adjusted to avoid drafting the sliver between the front roll and the trumpet.

It is not necessary to blend at breaker drawing. If lap-back drawing is used the sliver lapper is a good operation at which to blend.

Short- or long-draft roving equipment is suitable for processing Dacron-cotton blends. Normal front-roll speeds for cotton can be used. One-process roving is usually adequate for numbers coarser than 40s, but two or more roving processes should be used for numbers finer than 40s.

Minimum twist, just enough to keep the roving together, should be used. For best results, a number of twist levels should be tried before the final twist multiplier is decided on.

Spin Without Stretching

All types of cotton spinning frames, including those with conventional drafting elements, will spin Dacron-cotton blends efficiently. As in drawing and roving, the roll settings should be checked to avoid fiber stretching.

Front-roll and spindle speeds normally used for cotton are satisfactory. Travelers should be changed approximately every 72 spinning hours to prevent cut and bruised yarns.

Twist multipliers above 4.25 should be used to prevent pilling in the fabric. When fine numbers are being spun, if practical, double-creel roving should be used to improve yarn evenness.

Yarn made from Dacron-cotton blends is slightly weaker than yarns made from 100% cotton or Dacron. This reduction is caused by the differences in fiber elongation and surface characteristics of the two fibers.

Denier, Staple, and Yarn Number To Use

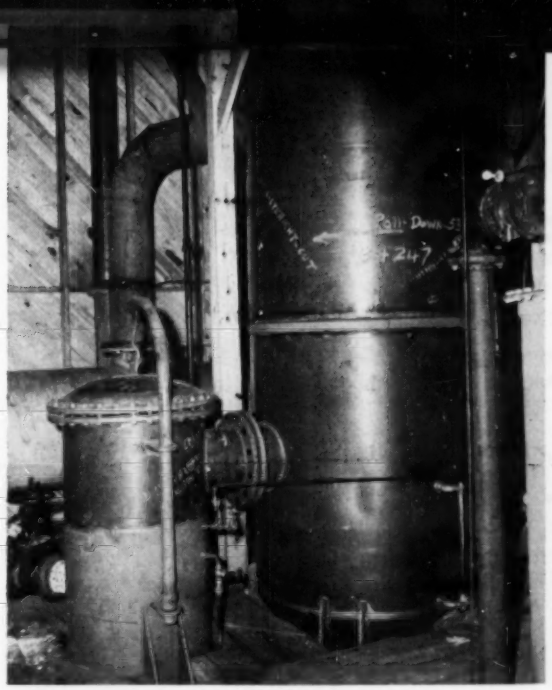
Yarn number	Denier of Dacron	Cotton staple (ins.)
Up to 30/1	3.0	1 1/8 combed
30/1 to 40/1	1.5	1 1/8 combed
40/1 and up	1.5	1 7/16 to 1 9/16 Pima or Egyptian

Picker Settings and Speeds

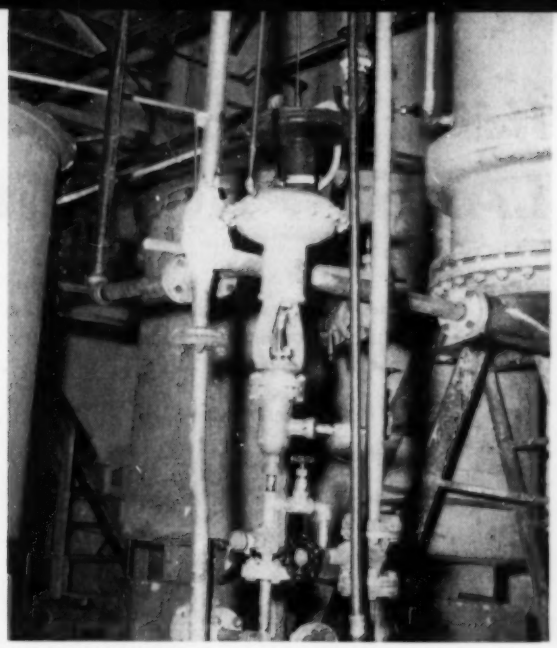
Beater speeds (Kirschner)	800 to 900 rpm.
Fan speed	1,500 to 1,600 rpm.
Beater to feed roll	3/8 in. (first section)
Beater to evener pedal	5/16 in. (second section)
Sargent comb to vertical apron	3/16 in.
Lap-pin pressure	30 to 40 lbs.
Lap weight	12 oz. per yd.
Lap length	30 yds.

Card Settings and Speeds

	1.5 den., 1 1/2 in.	3 den., 1 1/2 in.
Clothing wire count	110s	100 to 110s
Cylinder	120s	110 to 120s
Doffer	No. 1 rayon wire	No. 1 rayon wire
Lickerin	continuous knee	continuous knee
Fancy	No. 30	No. 30
Speeds (rpm.)		
Cylinder	165 to 170	165 to 176
Lickerin	400 to 450	400
Doffer	4.5 to 6.0	8 to 12
Fancy	1,525 to 1,600	1,525 to 1,600
Flats	2 ins. per min.	2 ins. per min.
Settings (0.001 in.)		
Lickerin to cylinder	0.007	0.007
Feed plate to lickerin	0.012	0.012 to 0.015
Screen to cylinder		
front	0.168	0.168
center	0.058	0.058
back	0.029	0.029
Back plate to cylinder	0.029	0.029
Front plate (top) to cylinder	0.034	0.034
Front plate (bottom) to cylinder	0.029	0.029
Flats to cylinder	0.012	0.012 to 0.015
Doffer to cylinder	0.005 to 0.007	0.005
Doffer comb to doffer	0.015	0.015
Fancy to cylinder	1 3/16-in. strip	1 1/8-in. With no fancy use 0.022-in. flats-to-cylinder setting



STEAM CHEST (left) delivers boiling caustic liquor to the evaporator. The liquor circulates through the steam chest and evaporator continuously until it has built up to 40% NaOH; then it is bled off.



AUTOMATIC VALVE actuated by a recorder-controller unit bleeds off concentrated caustic solution at predetermined strength. Slight variations average out to 40% NaOH in the storage tank.

Wash-Water Recovery Cuts MERCERIZING Costs

Fairforest Finishing Div. of Reeves Bros., Inc., recently put into operation a Zaremba evaporator to reconcentrate mercerizer wash water. The unit—

- **Saves caustic**
- **Reduces alkalinity of finishing-plant effluent**

By ROBERT W. PINAULT, Assistant Editor, TEXTILE WORLD

TWO-WAY SAVINGS have resulted from reconcentration of mercerizer wash water at the Fairforest, S. C., finishing plant of Reeves Bros., Inc.

By collecting all mercerizer wash water averaging 4 to 8% NaOH content and running it through a Zaremba evaporator, considerable savings in caustic have been made. In the past, a portion of the wash water was used for other plant processing, but a certain amount had to go to waste.

The caustic-recovery system will also fit into Fairforest's plan for effluent treatment because the waste water is now 5 to 6% less alkaline than formerly. Chemical treatment costs for neutralization will be correspondingly less.

How The System Works

Mercerizer wash water is pumped through a hard-coal filter to remove lint and other foreign matter. Colloidal material included in sizing mixtures is also taken out by the filter. Fairforest mercerizes both boiled and gray goods; so a certain amount of caustic contamination is to be expected.

After filtration, the weak caustic is pumped to a receiving tank. Automatic level controls in the filter and the receiving tank keep liquor levels within tank capacities at all times. From the receiving tank, the weak caustic is pumped directly to the steam chest of the Zaremba recovery system. Here, in a heat-exchange process, the caustic is brought to a boil and discharges into the evaporating chamber.

Water vapor is led off to a condenser that is cooled by incoming plant water. The heated water from the condenser is used for process or boiler-feed water.

The flow of weak caustic into the steam chest and discharge of 40% caustic from the evaporator are automatic. When the concentration of caustic in the evaporator reaches 40%, a valve is opened automatically and strong caustic goes to storage. At the same time, more fresh, weak caustic is admitted to the steam chest.

Operation Is Continuous

The operation goes on continuously; the strong caustic delivery valve is partially open all the time, and weak caustic is constantly being admitted. Variations in strong caustic concentration are small, the day's run blending to the desired 40%.

Steam consumption of the evaporator is relatively low because of the heat picked up by the condenser system. Operating costs will be further reduced when insulation of the new unit is completed in the near future. Savings are already substantial enough to show that caustic recovery is a good investment.

If You Convert to LARGE-PACKAGE *Spinning—*

Two papers on spinning-frame conversion were presented at the fall meeting of the Eastern Carolina Div., Southern Textile Association, at Raleigh, N. C. Subjects covered included—

- **Frame construction**
- **Ring size**
- **Traverse**
- **Gauge**

"Consider the Limiting Factors"

By W. H. RAWLINSON, Whitin Machine Works

Before changing over old, narrow-gauge spinning frames to larger packages, various limiting factors should be considered. These factors include traveler speed, front-roll speed, spindle speed, gauge of frame, and traverse.

Assume that a mill that has a group of 4-in.-gauge Whitin Model F frames with an 8-in. traverse and 2½-in. rings decides to change over the frames to an 11-in. traverse and 2¾-in. rings.

We normally install Whitin HM4-34 aluminum-sleeve spindles because the old spindles with plain bearings probably would not have sufficient carrying capacity for the larger packages. The practice of trying to use existing spindles with longer bobbins is not good. Unless the traverse is increased very little, the bobbin will have an excessive overhand and the running gear will wear rapidly.

Careful attention must be paid to the selection of the tube size so that the angle of yarn pull to the traveler will be satisfactory. An angle of 27° is usually considered a conservative minimum to use as a guide.

Larger Bore Is Needed

New 2¾-in. rings with new holders are installed next. If the frame was not bored originally for the larger holder, the bore will have to be increased to 3.212 ins.

If the rail is too narrow for the larger bore, a new steel rail must be added; the rings are secured to the rail with snap rings instead of screws. Lifting rods may have to be changed to accommodate the larger traverse. Lifting-rod bushings are replaced if they are worn or if larger-diameter rods are installed.

The 11-in. traverse requires traversing thread boards to modify the ballooning action of the yarn. Regardless of whether the frame is equipped with separators, a longer blade is required; these blades are now made of aluminum.

Cast-iron blocks are mounted under the head end of the frame, and adjustable feet are attached to the foot end. These changes usually are necessary to raise the frame for the increased traverse. If only a slight increase is to be made in the traverse, the frame is not raised; instead,

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"Consider the Engineering Problems"

By H. V. BURNHAM, Saco-Lowell Shops

A spinning-conversion job should be looked upon as an engineering problem, and all angles should be studied thoroughly before proceeding.

Frame conversion is usually necessary when a mill changes to a coarser yarn number or wants to put more yarn of the same number on the package. For example, a mill might have 1¾-in. rings and an 8-in. traverse on frames spinning 30s and 40s yarn. If these frames are put on 20s yarn, the savings that would result from 2½-in. rings and a 9-in. traverse are obvious.

Unless you are willing to accept more ends down or slower speeds after converting an old frame to larger packages, you have got to spin better yarn. To produce better yarn, minute attention must be paid to top-roll coverings and aprons, clearers, aligning and leveling, cap-bar adjustments, roll picking and cleaning, spindle plumbing, and travelers.

Keep Gauge in Mind

In converting to larger rings, the gauge must be kept in mind. The diameter of the ring should be 1 in. less than the gauge of the frame.

Greater traveler speed should be considered; speeds of 6,000 ft. per min. are not uncommon today.

Selection of rings and breaking them in must be done carefully. Traveler-changing schedules should be adhered to rigidly. When a ring is being broken in, travelers should be changed every hour for the first 8 hrs.; after that, the schedule gradually becomes normal. The break-in period usually requires three or four weeks. Traveler cleaners, attached to the ring holders with self-tapping screws, are a necessity.

Ballooning of yarn must be studied when a frame is changed to larger packages. Breaking strength of yarn will be lowered rapidly if the yarn beats against the separators. Judicious selection of bare-bobbin diameters and a study of traveler angles are necessary if the change is to either a longer traverse or larger rings.

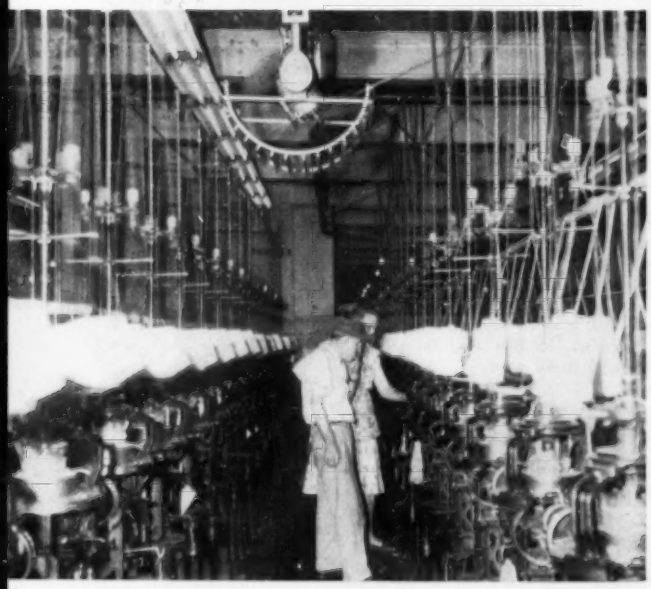
Angle Should Be 30°

One of the most important points to consider is the bare-bobbin diameter. Winding on a small-diameter bobbin with a small traveler angle dur-

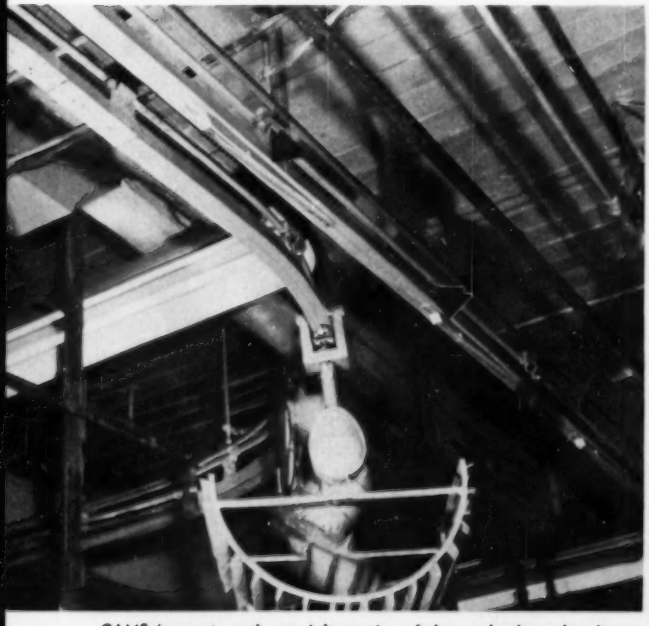
CONTINUED ON PAGE 190

AUTOMATIC CLEANING
Saves Waste and Time

• A traveling cleaner that blows each knitting machine down at regular intervals has resulted in top-quality fabric because of less lint accumulation and better working conditions.



TRAVELING CLEANER passes down the knitting alleys once every 3 mins. The first circuit cleans the left-hand machines and the next circuit the right-hand machines.



CAMS (arrows) on the straight section of the track where the cleaner travels back to its start position move the fan motor 80° to change the position of the air blast.

By **JAMES H. BLORE,** Associate Editor, TEXTILE WORLD

A CLEAN KNITTING ROOM is a prime requisite for top-quality fabric. To help keep the knitting room clean at Holt-Williamson Mfg. Co., Inc., Fayetteville, N. C., a Bahnson Allred cleaner was installed about a year ago.

In addition to keeping the knitting room and the knitting machines clean, knitting-machine operators are relieved of the many cleaning duties performed by the cleaner and are able to concentrate more on other jobs such as inspection of the fabric.

The cleaner travels around the knitting room on a track that winds up and down the centers of the four knitting-machine alleys. The track is suspended by 1-in. iron bolts about 4 ft. from the ceiling so that the cleaner travels about 8 ft. from the floor.

Circuit Made in 3 Mins.

Traveling in one direction at the same rate of speed, the cleaner makes a circuit of the 150 machines in about 3 mins. A straight section of the track at one end of the knitting room sends the cleaner back to its starting position at the end of each circuit.

There is a three-blade fan on each end of the fan motor. One fan is directed at the ceiling, and the other fan is aimed at the knitting machines.

At the completion of each circuit of the track, a series of cams, screwed to the straight section on the end of the track, move the cleaner 80°. The machines on the opposite side of the alley are then cleaned on the next circuit.

Eight cams move the fan motor in stages of 10°. A roller on a lever, running on the track behind the cleaner, is pushed down by each cam. A ratchet arrangement is moved by the lever to turn the fan motor.

The electric power supply is on a rail fixed over the track. Power is obtained from the normal power circuit.

The shields below the fan are kept wide open to take advantage of the full blast of the fans. The blast reaches the tops of the yarn cones to prevent lint accumulating in this important area.

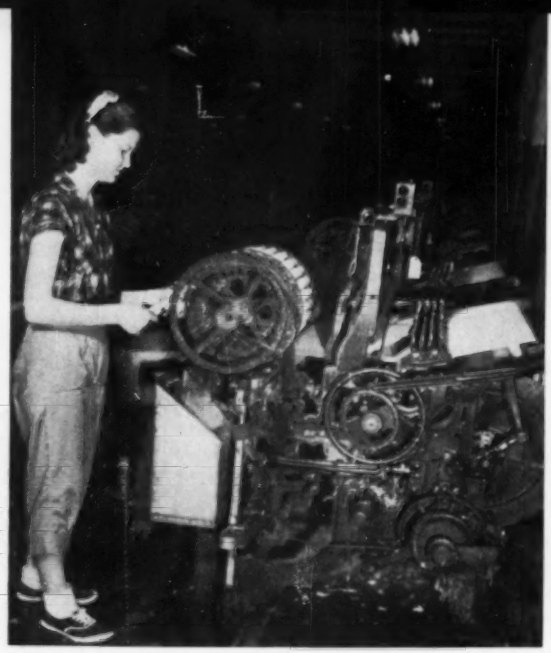
Fewer Broken Needles

The stop motions are also kept cleaner, and they operate better than before the cleaner installation so that seconds are fewer. Because lint is not allowed to collect on the machine, lumps of this lint do not get dragged into the needles. Needle breakage and holes in the cloth have been reduced.

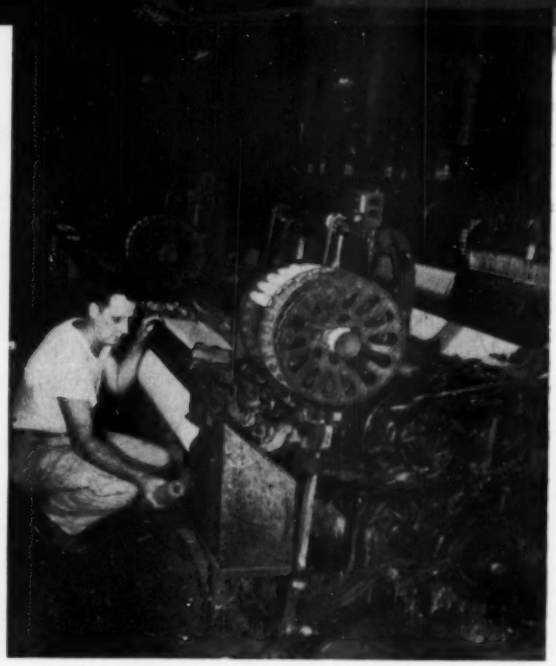
The air blast does not reach the knitting-machine cylinders with sufficient power to keep the cylinders free from lint, but the knitters remove this regularly with a blast from the air hose.

The lint is blown on the floor, and most of it falls out of harm's way under the boxes in which the fabric is collected. The lint is then swept up during each shift by the knitting-machine oiler.

Installation of the track and cleaner was done by the Bahnson Co. Several experimental layouts were made before the present layout was adopted.



BATTERYHAND Martha Moss is filling batteries on one of her 120 looms. The rebuilt bobbin holds 2,850 yds. of 41½s filling and is 8⅜ ins. long.



CLOTH DOFFER Joe Richie doffs cloth on 331 looms. All cloth is doffed on the first shift in rolls of 200 to 350 yds. Cloth runs from 56 to 80 ppi.

New Ideas on Old Looms Improve WEAVING *at Chiquola*

Standard jobloads in the weave room plus improvements to looms and slashers are giving this broadcloth and print-cloth mill better and cheaper cloth. New ideas are—

- **Larger filling packages at practically no cost**
- **Devices to clean filling-fork grates automatically**
- **Clock-top harness motions for versatility**

By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

OLDER LOOMS touched up with new mechanical ideas are doing a good job of weaving broadcloth and print goods at Chiquola Mfg. Co., Honea Path, S. C. There are 1,655 Draper E-model looms in the mill. Production is 95%; seconds range between 4 and 5%.

The newest mechanical idea has resulted in 25% more filling on the loom bobbins with no cost except rebuilding the bobbins. The bobbins were originally 8 ins. long with 3½-in. barrels at the yarn-bunch position. To rebuild the bobbins: (1) they were made ⅜ in. longer, (2) the length of the butt was cut back ⅛ in. at the barrel, and (3) the barrel was cut down 1/16 in. at the bunch position and tapered to the end. The work was done by Southern Bobbin Works, Inc.

Bobbins of yarn for the looms come directly from spinning frames. In spinning, the only changes necessary were to reposition and lengthen the traverse.

No loom parts were added to make the bobbin change-over. The same shuttles are being used. The change was made by repositioning the small-end-disk bobbin holder, thread guide, and transferrer fork. The result is, in effect, putting 8½ ins. of yarn on an 8⅜-in. bobbin.

The only difficulty that has developed with the rebuilt bobbins is that, because of the shorter butt, loomfixers have to box the shuttles and set the transfer closely to make the bobbins ring up right.

Another idea developed at Chiquola is an automatic method of cleaning the side-fork filling stop-motion grates. The grates are cleaned at every pick of the loom by a brush device mounted on the loomside.

The device is made from a loom bolt, a machine bolt, a piece of strap

WEAVER Ora Thornton tends 82 looms. Her primary job is starting up filling and warp breaks since she has no other duties such as filling batteries.

LOOMFIXER L. G. Saxon has 108 looms and does his own warping. He's finishing a new shuttle with shuttle dressing before he puts it in the loom.

iron, and a brush regularly used to clean the filling grates by hand.

A ⅜-in. hole is bored 1 in. from each end of a piece of strap iron 1½ ins. wide and 7 ins. long. Then the iron is bent at a right angle 3 ins. from one end to form a stand.

Cleaning Costs Nothing

The stand is mounted to the loom by bolting it inside the loomside with a ⅜x1-in. loom bolt; the 3-in. end is against the loomside.

The brush handle is cut off on two opposite sides to form 1-in. flat surfaces, and a ⅜-in. hole is bored 1½ ins. from the end. The machine bolt fastens the brush handle to the top of the stand with the bristles toward the front of the loom.

As the loom moves back on each pick, the fork grate strikes the bristles of the brush and the bristles are inserted through the grate. Therefore, the bristles keep all lint and dirt brushed from the grate. No physical cleaning is ever necessary. The total cost of the brush and the stand, which is made in the mill machine shop, is 40¢.

Clock-spring-top harness motions have been added to 226 looms to replace two-harness roll-top harness motions. Mill Superintendent Robert H. Hope says, "The clock-spring tops are the best harness motion we've ever used. They're easy on harness straps; the springs don't break; and since the spring motion is totally enclosed, the entire motion is easy to keep clean. We will probably go all the way on the clock tops when more multiharness fabrics have to be woven."

The looms at Chiquola are of two widths; there are 316 46-in. and 1,339 40-in. looms. The 46-in. looms are motor-driven and run at 168 ppm. The 40-in. looms are both motor-driven and belt-driven. The motor-driven looms run at 178 ppm., and the belt-driven looms run at 167 ppm.

All motor-driven looms are mounted on mounting pads. Looms that have not been moved are still fastened to the floor with lag screws. But eventually, pads will be used under all looms.

Fabrics woven 39 ins. wide are 68x72, 4.75; 80x80, 4.00; and 80x60, 4.55. Cloth 40 ins. wide includes 80x80, 3.50; and 64x56, 5.30.

How Jobs Are Laid Out

The weave-room supervisory staff is headed by a general overseer. He has three second hands on each of the three shifts; each second hand has 550 looms. In addition to weaving, the general overseer has charge of slashing and tying in. A timekeeper and assistant timekeeper round out the staff.

Loomfixers have 108 looms and do their own warping. Warps are lifted out of the loom and tied with stationary tying-in machines. Weavers have 72 to 82 looms, depending on the style of cloth. Batteryhands have 120 looms. The average filling number is 41½s. On the rebuilt 8⅜-in. bobbins, the filling yarn averages 2,850 yds. per bobbin.

All cloth is doffed on the first shift. The cloth is doffed in rolls of 200 to 350 yds. Five cloth doffers doff the cloth on the 1,655 looms.

Looms are cleaned at warp-outs by loom cleaners. Loomfixers oil their looms at warp-outs. But there are regular oilers who oil looms according to schedule. Crankshafts, camshafts, etc. are oiled during the week-end shutdown.

Promote Own Employees

Employees at Chiquola are trained from the bottom jobs up. Batteryhands are trained for weavers. Male day hands are taught to weave; then they are given overhauling jobs. There are two overhauling jobs on each shift. The overhaulers replace main shafts, do odd loomfixing jobs, etc. Overhaulers are promoted to loomfixers. More than half of Chiquola's loomfixers were trained at the mill.

The weave room is not air conditioned. Humidity is supplied by atomizers. There's one humidifier maintenance man on each shift. The relative humidity is maintained at 86%. During the winter, when the temperature can be controlled, it is maintained at 85° F.

The overhead areas in the weave rooms are cleaned by two men, who are both on the first shift. They also dry-mop the fluorescent lights.

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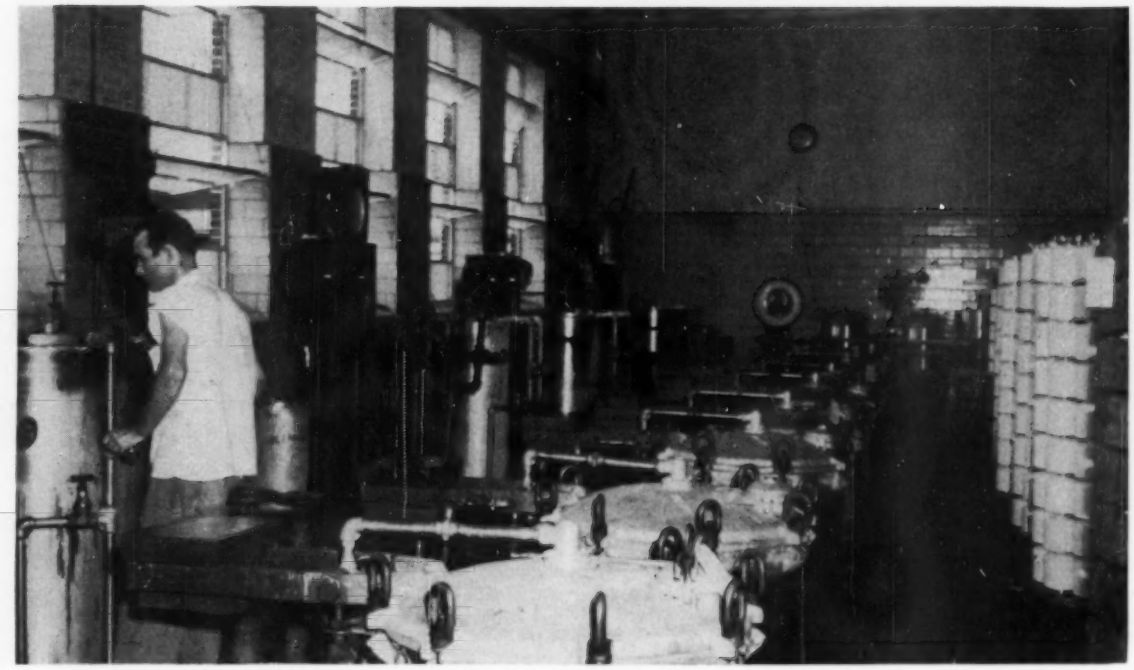


VALDESE'S DYEHOUSE is well laid out, light, and airy. All equipment is stainless steel.

Control of Every Step Gives Good PACKAGE DYEING

Valdese Mfg. Co., Valdese, N. C., has developed preparation and dyeing methods for packaged yarn that pay off in—

- **Reproducible shades**
- **Even dyeing**
- **Higher production**

By **ROBERT W. PINAULT,** Assistant Editor, TEXTILE WORLD

Valdese Mfg. Co. has minimized the problems of package dyeing by control and standardization of as many details as possible from raw-cotton selection to finished package dyeing.

Starting with the cotton, the mill has set up specifications for staple length, fineness, maturity, and cleanliness that give a fair working basis for the processing to follow.

Valdese spins fine and coarse yarns for both knitting and weaving and dyes a large poundage on a commission basis. To insure proper density, weight, type of wind, kind of sock, and size of package, Valdese has set up the following specifications as a guide for the preparation of yarn for package dyeing:

Singles-Yarn Specifications

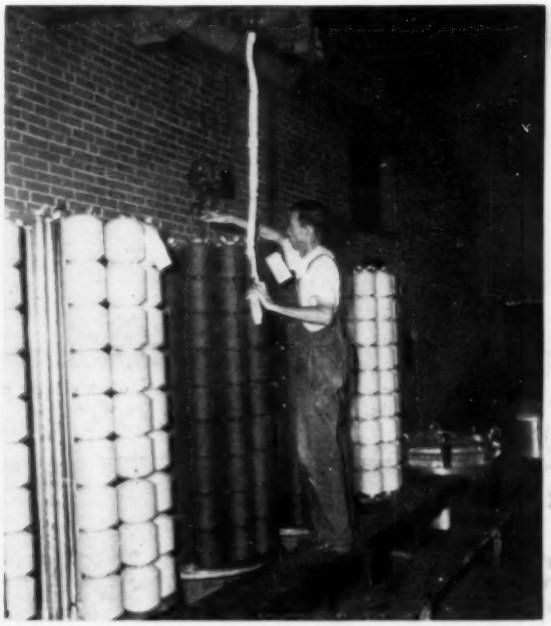
Spiral-paper tubes must be 1¾ ins. in diameter, with a low tolerance of 1.720 ins. and a high tolerance of 1.760 ins. Inside diameter is to be 1.610 ins. The complete package, based on 18/1 c.p. yarn, is to be 6½ ins. in outside diameter, plus or minus ⅛ in. Yarn must be centered on the tube.

The sock must be coarse-ribbed, not too light, and the proper length. The tucked-in end should be even and not too long. The open end should be 1¼ ins. long.

The yarn should be wound on the tube so that when it is backwound after dyeing the yarn will come off in a clockwise direction. The tucked-in end is mounted down for backwinding.

Plied and combed yarns follow the same specifications except that packages should weigh 28 to 30 oz., with a corresponding reduction in diameter. Correct density should be maintained as previously outlined.

EXTRACTING dyed yarn removes excess water by blowing air at 240° F. through the package.



PORT DRYERS remove almost all the balance of moisture. Valdese carries drying one step further in tray dryers to get a uniform product.

Their own yarns are wound to meet these specifications.

Laboratory Control Stressed

After establishing a uniform base product with which to work, Valdese relies on the laboratory to establish the dyeing routine and dye formula. Depending on the shade and end use, direct, vat, sulfur, or naphthol colors are used to produce a current range of over 1,000 shades. Over 5,000 shades and colors have been approved and numbered for regular dyeing. Thousands of other shades are kept in the laboratory files for reference in matching new shades.

Laboratory dyeings are first made on a 10-gram skein; then a single 2-lb. package is dyed in a Gaston County laboratory dyeing machine. These laboratory dyeing formulas and other processing details can then be translated directly to production lots.

The laboratory keeps a constant check on quality to make sure that the finished product meets specifications for strength, lightfastness, crocking, washfastness, and whatever else may be required. A Launder-Ometer is used to check washfastness of all shades.

One-Step Tubing

Valdese receives yarn on cones and also on 2-lb. spiral-paper-tube packages. The spiral-paper-tube packages are put through a machine developed at Valdese that ejects the paper tube, inserts the stainless-steel perforated dyeing tube, and cups the package ends in one quick operation. Coned yarn is carefully rewound on stainless-steel dye tubes to required standards of weight, diameter, and density.

Dyehouse Is Modern

Valdese's dyehouse was completed in 1952 and is equipped with 24 Gaston County stainless-steel dyeing machines. The machines are set up in pairs, each kier rated at 300 lbs. of yarn on 16-spindle carriers. For some types of yarn—mainly vat- and sulfur-dyed yarns—30-spindle carriers are used to accommodate packages weighing 1 to 1¼ lbs. each. Two single-kier machines of 25 lbs. capacity each are available for small lots. The kiers are in one long line and are supplied with water from a single water line that has been tapped into the water main from both ends to help maintain an equal pressure on all kiers.

Each dyeing machine is equipped with a recorder that shows the time and temperature for each change of the dyeing cycle. Several machines have been equipped with flow meters that measure the actual liquid flow through the package.

The single-kier machines are used to dye lots for customers who don't require large lots of any one color. Valdese dyes these 300-lb. lots on dye-and-hold orders and then ships out portions of the lots as required.

Process Is Standardized

Except for very dark, dull shades, Valdese scours the yarn for 30 mins. at 180° F. before dyeing. A synthetic detergent plus ½ of 1% of soda ash provides an adequate bottom for many shades. For pastels or very bright colors, a partial peroxide bleach follows scouring. Hydrogen peroxide at 50-volume concentration is stored in a 5,000-gal. aluminum tank, with a feeder line to a central point near the bleaching and pastel kiers. Advantages of the storage and distribution system are lower chemical costs of bulk buying and much less danger in handling the corrosive chemical.

Liquor-flow cycles, temperature, and total time required to match a shade are well established by previous laboratory work; so scheduling can be predicted quite accurately. Valdese produces about 180,000 lbs. of dyed yarn per week, of which about 30,000 lbs. goes to weavers and the remainder to knitters and thread users.

Drug Room Is Key Point

All the careful work done by the laboratory in estimating the quantities of dye needed for a given shade could easily be upset by careless weighing or inadequate equipment in the drug room. Valdese sees to it that a competent man supplied with accurate and sensitive balances is in charge of weighing dyes on each shift.

Four sets of balances are used: one

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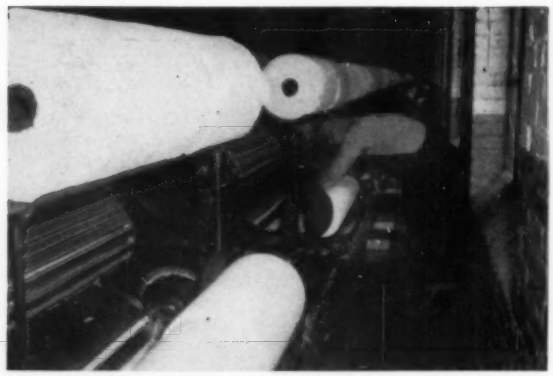
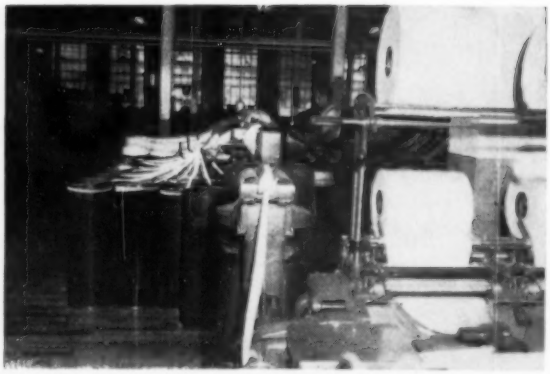
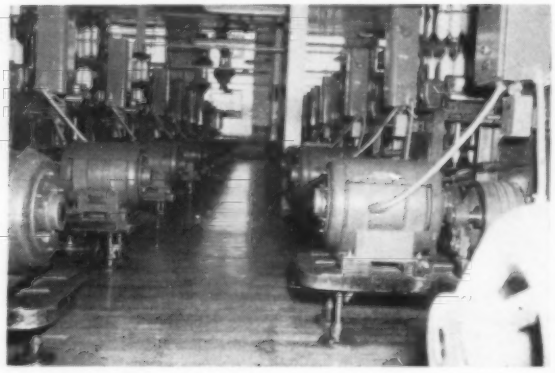


TWO 20-IN. LAPS are placed on the finisher cards, which produce a 52-grain sliver at 8 lbs. per hr.



A 50-GRAIN SLIVER is made on the D4 and K model combers. Drawing equipment is two-process, four-roll breaker and finisher.



FOR EASIER CLEANING, spinning-frame motors and variable-speed drives are mounted several inches above the floor.

REVOLVING TOP CLEARERS are stripped on a Leftex cleaner; cleaning time is reduced 70%.

How DOUBLE-CARDED YARN Is Made at Linn

Production of combed and double-carded yarn in the same mill can be tricky unless care is taken all the way through each process. Basic rules are—

- **Select cotton carefully**
- **Clean and blend thoroughly**
- **Double the stock frequently**
- **Keep machinery up to date**

By WILLIAM G. ASHMORE, Associate Editor, TEXTILE WORLD

Linn Mills Co., Landis, N. C., is one of the few mills in the South that produces both combed and double-carded cotton yarns. Production of 18s to 40s averages 125,000 lbs. per week. Here's how the mill does it.

First, Linn is especially careful about the quality of cotton used. Micronaire reading must be from 4.0 to 4.2.

A new opening room, large enough to accommodate 120 bales of cotton, has been built. Feeding is from 60 bales to 12 hoppers set up in two lines.

In the double-carding department, breaker cards produce a 58-grain sliver at 9 lbs. per hr. The finisher cards produce a 52-grain sliver at 8 lbs. per hr. The finished sliver is used in the production of 18s to 40s yarn.

Settings on the breaker cards are: flats, 0.009 in.; doffers, 0.007 in.; lickerin, 0.007 in.; feed plate, 0.007 in. The cylinder operates at 175 rpm.; the lickerin runs 400 rpm. Settings

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Textile World

Annual Review of

New Equipment and Supplies and New Dyes and Chemicals

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New Dyes and Chemicals

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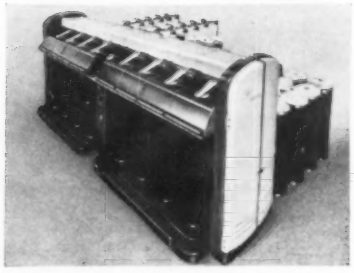
TO REQUEST FURTHER INFORMATION on any item described in this review, please use the Reader-Service card on p. 177. Refer to the number following each description.

Annual Review of EQUIPMENT and SUPPLIES

1 YARN PRODUCTION

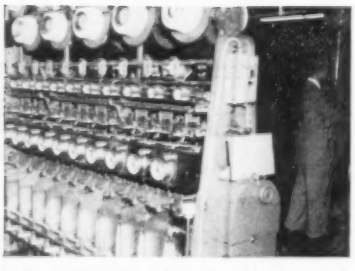


High-Speed Drawing Frame

A high-speed drawing frame, known as Even-Draft, was announced by Whitin Machine Works, Whitinsville, Mass. The machine has eight deliveries; each four-delivery section is independently driven.

Front-roll speeds range from 250 to 300 ft. per min.; net production is more than 300 lbs. per hr., dependent upon the fiber run and sliver weight. The machine processes cotton and spun-synthetics blends with staple lengths of $\frac{7}{8}$ to 3 ins.

The frame is said to produce drawing sliver with a variation of 15 to 17% (2.9% Uster reading) on carded stock and 10 to 12% (2.5% Uster reading) on combed stock. **(A-1)**



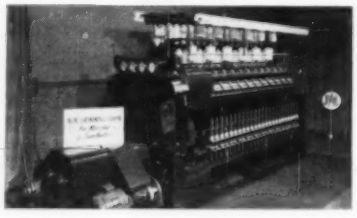
Downtwister

A 2-lb.-cone downtwister was announced by U. S. Textile Machine Co., Scranton, Pa. The twister can twist as low as 1 tpi. in 40-den. Dacron at 8,000 rpm., with the yarn lubricated at the same time. Up to 1.8% of oil can be put in the yarn with a variation of ±0.2%. The machine can also be used as a high-speed doubler. **(A-2)**

Drafting System

The Balmes drafting assembly is available through McGlynn Hays Industries, Inc., Belleville, N. J. The system will handle fibers from ¾- to 4-in. staple. The system fits 35° or 60° roller stands.

A control roller provides a constant pressure on the fibers at all positions. Its movement is synchronized with both traverse bars. The roller delivers a ribbon of fiber, free of twist and closely condensed, to the front draft zone. **(A-3)**



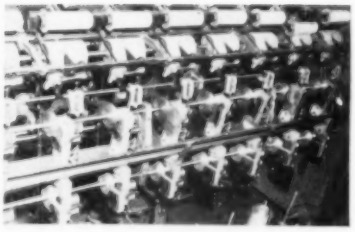
SACM Worsted Frame

The SACM spinning frame for worsteds, synthetics, and blends was introduced by Atkinson, Haserick & Co., Boston, Mass., for use in the American, French, or Bradford systems. Fibers from 1 to 12 ins. can be handled. Draft: up to 20.

The drafting system features a wide apron, which covers two spindle positions. The aprons can be changed without stopping the machine, and the spring-weighting system does not obstruct the view of the drafting element. Each side can be operated independently and on different yarn numbers. Tachometers indicate front-roll and spindle speed. **(A-4)**

Roving-Bobbin Stripper

The Comer-Turley roving-bobbin stripper, developed at Pepperell Mfg. Co., is manufactured by West Point Foundry & Machine Co., West Point, Ga. The bobbin is stripped at 3,000 rpm., and the unit can also be set to break up waste, which can be exhausted to opener feeds. Based on two laps of roving, production is six bobbins a minute. **(A-5)**

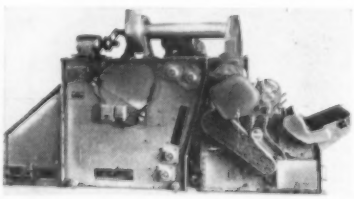


Winder

A 50-spindle winder that can be changed from Taslan to Ban-Lon in 1 hr. was announced by U. S. Textile Machine Co., Scranton, Pa. The take-up operates at 150 yds. per min. Auxiliary equipment such as the heat supply for Ban-Lon is built into the machine. A two- or three-roll system is available for Taslan. **(A-6)**

Yarn-Splice Cement

Tinted and high-temperature splicing cements, developed and manufactured by Pioneer Latex & Chemical Co., Middlesex, N. J., were announced. **(A-7)**



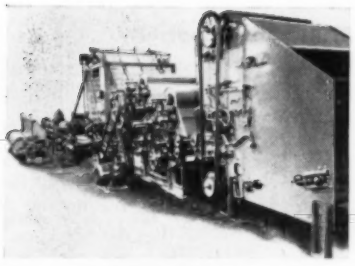
Sandwich Blender

Curlator Corp., East Rochester, N. Y., announced an improved Model 40-B Rando-Feeder and Rando-Webber.

The improved Rando-Feeder has a constant output rate from full hopper to almost empty and requires less operator attention.

The improved Rando-Feeder can be used for blending. A continuous sandwich blend made with three or more Rando-Feeders in line shows uniformity in depth, width, and length, inch by inch and yard by yard. **(A-8)**

For more information, circle the A-number on Reader-Service post card.



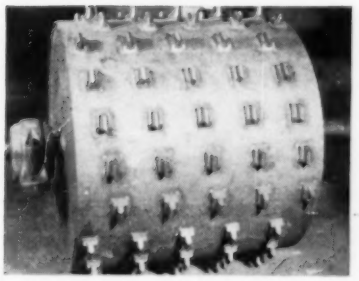
Double-Doffer Garnett

Proctor & Schwartz, Inc., Philadelphia, Pa., announced a high-speed garnett machine, No. 700, for the production of batting made from cotton, cotton waste, linters, wool waste, jute waste, rayon, and other synthetics.

The new machine employs the double-doffer principle of using an additional intermediate fancy between the upper and lower doffer. This arrangement is said to give a more-uniform web on the lower doffer and to keep the main cylinder clear of fibers. Production on average-run mattress batts is 400 to 500 lbs. per hr.; on jute it is as high as 700 lbs. per hr. **(A-9)**

Spinning-Frame Light

The twin-beam yarn illuminator for spinning frames made by Meiners Optical Devices Ltd., London, England, is available in the U. S. from McGlynn Hays Industries, Inc., Belleville, N. J. The unit fits on one end of a spinning frame and puts out a beam of light 3½ ins. in diameter to illuminate the yarn above the spindle. It is especially suited for frames spinning fine yarn numbers. **(A-10)**

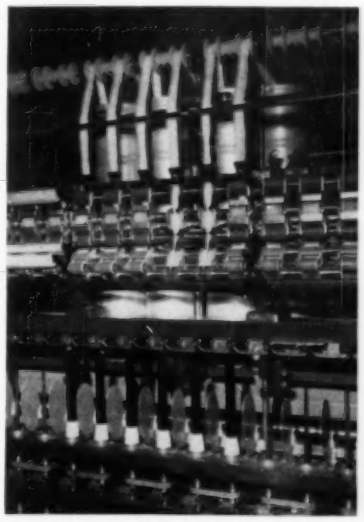


Bale Breaker

A redesigned bale-breaker cylinder was announced by Taylor-Stiles & Co., Riegelsville, N. J. On former models, teeth were welded directly onto the cylinder; tapered sockets are now employed. **(A-11)**

Doubler Guides

Homogeneous AlSiMag doubler guides for lighter and more-uniform tensions were offered by Titania Div., American Lava Corp., Chattanooga, Tenn. These guides are designed to be used on abrasive yarns, which can be run at higher than normal speeds because chafing losses are reduced. The guides are available in both nonconductive and conductive materials. **(A-12)**

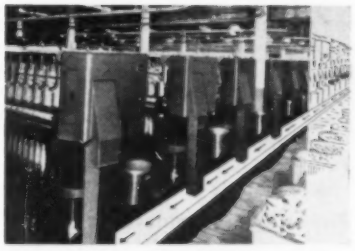


Sliver-to-Yarn Frame

The O-M sliver-to-yarn spinning frame, capable of drafts to 700, is available through E. S. Rudnick, New Bedford, Mass. Sliver is made on a standard drawing frame but fed into special supply cans.

The spinning frame combines Casablancas roving and spinning apron systems: The back three-roll assembly is in a vertical position, and the front two-roll assembly (one roll is shared) is at an angle. Bakelite trumpets feed sliver to the rolls, and Bakelite collectors between each set of rolls feed the stock from the nip of one set directly into the nip of the next set. Positive traverse for the trumpets and collectors are supplied for some yarns. Because of the close control in drafting, a proportion of shorter fibers can be used.

A 5⅜x24-in. can, which holds about 1¼ lbs. of sliver, is used. On a three-shift basis, one can keep a spindle going for a week on medium yarn and two weeks on fine yarn. **(A-13)**



Central Air System

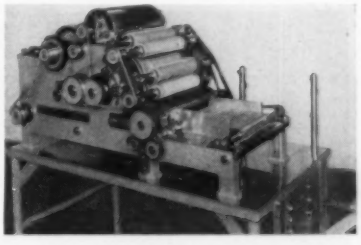
Pneumafil Corp., Charlotte, N. C., announced that its central air system for spinning-end removal has been improved to permit optimum uniform distribution of air, heat, and humidity throughout the room.

Room heat is reduced by exhausting part of the heat from the frame before it is expelled into the room. Heat generated by the Pneumafil equipment is exhausted outside the room. If no air-conditioning equipment is in use, the Pneumafil equipment alone tends to cool the room. **(A-14)**

Slubbing Attachment

An improved slubbing attachment is available through Mathews Equipment Co., Providence, R. I. The two basic improvements are the elimination of the slubbing weight and the necessity for pins or buttons in the large disk. The slubbing weight was eliminated because it required close supervision of lubrication.

Slubs produced can vary in length, thickness, and spacing; and adjustments are possible to produce slubs of even spacings in a repeat pattern. **(A-15)**



Sample Wool Card

Stellite American Corp., New York, N. Y., announced a new Anton Guillot sample wool card. The card consists of two parts: (1) the sample card itself with a 12-in. working width and (2) a tape-condenser section that can be attached to the card.

The unit has a small breaker card, two feed rollers, one stripping roller, and one breast roller covered with sawtooth wire to insure a thorough open-

ing of materials. There are two workers and two strippers.

The two-bank tape condenser has a special patented drive, and optimum width of tapes makes it possible to spin fine and coarse yarns. (A-16)

Picker Improvements

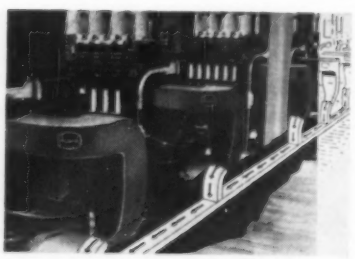
Picker modifications designed to prevent hard ends and to improve evenness of the first few yards of a lap were developed by Aldrich Machine Works, Greenwood, S. C.

To give closer control of lap tension behind the calender rolls, the third calender roll is driven by a chain instead of a gear. To give more-uniform laps and to reduce doffing time, the fluted rolls stop when the calender rolls stop.

To make the first few yards of lap the same weight as the rest of the lap, there's a locking device on the cone belt. The evener motion then doesn't give a false signal because the fingers had a chance to press into the lap while the picker was stopped. (A-17)

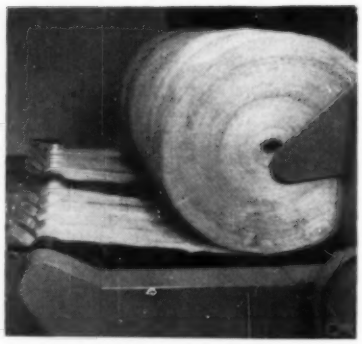
Metallic-Yarn Reinforcer

An adaptation of the Arnold covering machine is available for reinforcing metallic yarns from H. H. Arnold Co., Inc., Rockland, Mass. A 48-end frame is used instead of an 80-end frame to get a larger package. The frame has a parallel-tube or 3° 30′-cone take-off with a pineapple winding attachment and two core holders per end. (A-18)



Material-Recovery System

An improved central material-recovery system for spinning frames that combines materials-handling operations with air conditioning, was announced by Pneumafil Corp., Charlotte, N. C. There is no collector on the frame. Material separated from the air is automatically conveyed through ducts to the pickers or elsewhere, and the air is either returned to the room or exhausted outside. (A-19)



Roll Former for Jute

A roll former for the first jute drawing was put into production by Fairbairn Lawson Combe Barbour Ltd., Leeds, England. The over-all height of the drawing frame has been reduced, and it is easier for the operator to see the faller bed. (A-20)

Wool-Card Control

In conjunction with the Wool Industries Research Assn., Leeds, England, the Lancashire Dynamo Electronic Products Ltd., London, England, developed a photoelectric element to control the weight of web in wool carding. The cell measures the weight by recording the intensity of a beam passed through the web: the change in intensity is proportional to the change in weight. The variations in electrical output of the cell are then used to operate servomotors to control the carding process. (A-21)

Static-Control Equipment

Hewson Co., Inc., Newark, N. J., announced the Model 100 TAKK static-control system for applications where space limitations prevent the use of the standard TAKK equipment. (A-22)

Split-Base Spindle

A Hartford Machine Screw Co., Hartford, Conn., ball-bearing filling spindle with a split base uses the same precision-ground blade and the same prelubricated ball bearings of the Hartford spindle with plumbing adjustment. Where plumbing by shims is satisfactory, this split-base spindle brings installation economy and requires no lubrication for an estimated five years. (A-23)

Picker Feed Control

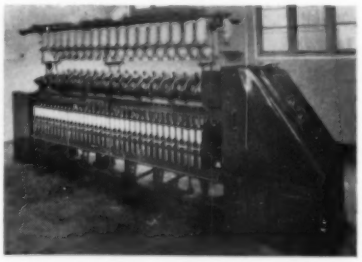
A feed-control drive for Kitson and Saco-Lowell pickers developed by J. A. Quinn & Sons, Greenville, S. C., operates directly from the top evener cone. With the Equalizer, the evener has control over picker stock at the back of the picker and the hopper as well as the evener roll. (A-24)

Coiler Change-Over

Fourteen-inch coilers for older five-, four-, and three-over-four roll Saco-Lowell drawing frames are available as replacements from Saco-Lowell Shops, Boston, Mass. Advantages: longer runs between doffs and reduced direct-labor costs. Estimated savings go as high as 30% in direct labor and 50% in reworkable waste when 12-in. cans are replaced with 14-in. cans. (A-25)

For Shirley Opener

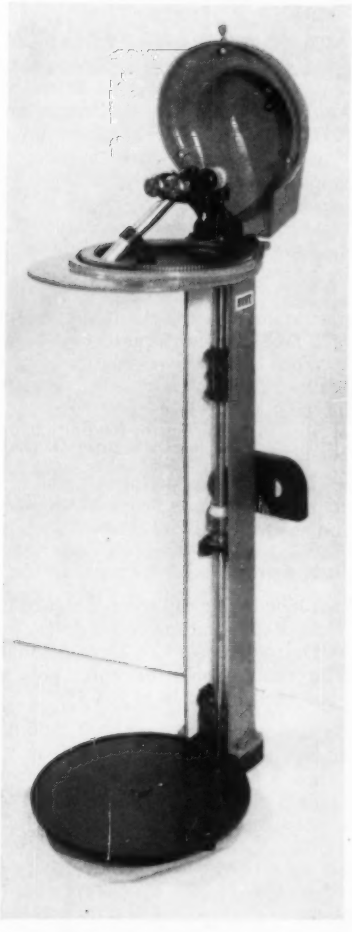
A waste-collecting unit for Shirley Opener installations in mills without a vacuum removal system was developed by Tweedales & Smalley Ltd. (U. S. representative John Hetherington & Sons, Inc., Gastonia, N. C.). An open-bottom bag is suspended within a steel framework. Waste-laden air is blown from the waste compartment by a fan, and the air is dissipated through the bag. When the bag is full, the waste is dumped into a collecting chamber for removal. (A-26)



High-Draft Spinning

A high-draft spinning frame 35 ins. wide, of rigid construction, and equipped with special needle bearings on the bottom rolls was announced by N. V. Machinefabriek Oude Egberink, Hengelo, The Netherlands. The frame, called the Spinmaster, is said to occupy less floor space, permit more bobbins per square yard, keep oil out of yarn, and use less power. (A-27)

For more information, circle the A-number on Reader-Service post card.



Card Coilers

Large card coilers, 15x42- and 18x 42-in. models, were developed by Southeastern Loom & Machine Works, Greenville, S. C. A change from 12x36-in. coilers to 15x42-in. change-overs increases sliver in the can by 100%, and a change to 18x42-in. coilers results in an increase of 400%. (A-28)

Spinning Change-Over

An improved high-draft spinning change-over was developed by Roberts Co., Sanford, N. C., for up to a 45 draft.

The change-over includes fully adjustable roll stands; hardened-steel top and bottom rolls; no-coil cap bars and saddles; hardened compound gearing for high- and low-draft constants; and the Roberts creel, which is a fully open, all-metal arrangement for skewers. (A-29)

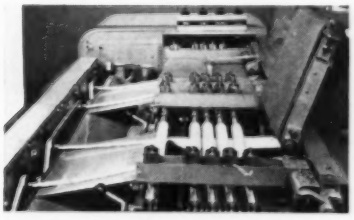
Hopper Feeder

A hopper feeder to replace hand feeding of waste machines was announced by Kirkman & Dixon Machinery Co., Greenwood, S. C. The lattice apron and doffer in the feeder preopens the stock, prevents chokes, and insures more-uniform feed. (A-30)

Novelty-Yarn Attachment

With the Whitin duplex-splash attachment, available from Whitin Machine Works, Whitinsville, Mass., yarns with alternating colors of splash segments can be produced.

The attachment increases and decreases the speed of both the upper and lower delivery rolls independently. (A-31)



Frame for Split Sliver

A drawing frame with revolving trumpets for split sliver was announced by Deutscher, Spinnereimaschinenbau, Ingolstadt, Germany. The frame is designed to be used in connection with split combed sliver that tends to produce a false draft because of its instability. The revolving trumpet gives the sliver a false twist and makes it go in and out of the can easier. (A-32)

Woolen-Card Attachments

Two woolen-card attachments for the manufacture of flake yarns were announced by Stellite American Corp., New York, N. Y. One device, Model A-6, is suitable only for the manufacture of flakes made from the same material as the basic yarn. This attachment causes periodic changes in the distance between the cylinder and doffer and controls the delivery of an alternately thin and thick lap.

Another attachment, Model A/B-6, can produce flakes from different material. It also can produce flakes in various sequences to allow two-color flake yarns to be spun. (A-33)

Collector Unit

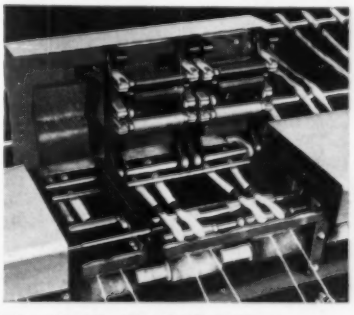
Pneumafil Corp., Charlotte, N. C., redesigned the air-exhaust system on the C-4 collector unit for spinning so that air is gently released from all four sides through 224 vents. Capacity of the unit was increased from 2.5 to 4.1 cu. ft., and weight was reduced from 300 to 212 lbs. Collection is 50% greater, with no loss of efficiency. The unit can easily be converted into a central air system. (A-34)

Yarn Rewinder

A yarn rewinder, engineered for accurate mill-to-mill evenness comparisons, was developed by Brush Electronics Co., Cleveland, Ohio. The new instrument can be used with any electronic evenness tester. The yarn rewinder pulls the yarn through the tester at 5 ft. per sec. and winds the test sample on a standard paper tube. The process allows the same length of the yarn to be retested. (A-35)

Condenser Tape

Benjamin Booth Co., Philadelphia, Pa., offered a new condenser tape known as Supr-o-tape. The tape features long life without stretching and does not need oiling, and there is no surface cracking. It is said to hold its square edges indefinitely. A uniform amount of stock is carried at all times, and there is no sagging or dropping of ends. Splices or plies will not open regardless of the emulsions used. (A-36)



Top-Apron Draft System

A top-apron drafting system for speeder frames, said to handle a wide range of cotton staples with a minimum number of setting points, was introduced by Platt Bros. (Sales) Ltd., Oldham, England.

Three lines of top and bottom rolls are used. Front and back rolls are con-

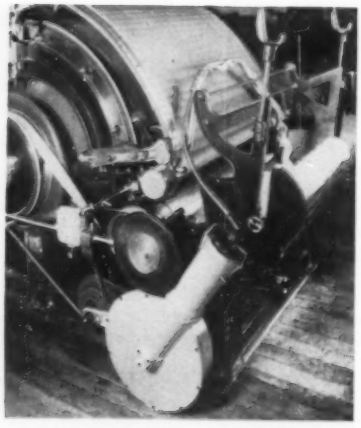
For more information, circle the A-number on Reader-Service post card.

ventional. However, the bottom middle roll is covered with a large-diameter synthetic cot over which works a short synthetic apron carried by the middle top roll. This arrangement deflects the fibers from a straight-line passage and increases fiber control. (A-37)

Thomatex Filter Box

Thoma Co., Augsburg, Germany, developed a Thomatex filter box suitable for many types of frames. The filter box is equipped with a 1.7-hp. motor for normal spinning frames and a 2-hp. motor for large-gauge frames with more than 300 spindles.

Maintenance and adjustments are easy. The front wall is attached with only two screws. When the front wall is removed, there is free access to the fan, electric wiring, and switch. (A-38)

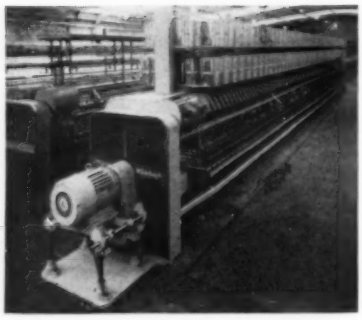


Continuous Card Stripper

A continuous vacuum-type card stripper that reduces waste to approximately 1% of lap weight and makes manual stripping necessary only every 40 to 120 hrs. is being imported from Spain and sold by American Balmes Corp., Newark, N. J.

The stripper keeps the clothing on the main cylinder clean and free from clogging for long periods of time and permits greater carding uniformity. Production is increased, and neps are reduced.

The collector unit is mounted above the lickerin with the suction nozzle projecting toward the cylinder through a slot in the back plate. (A-39)



Spinning From Sliver

A model of the drawing-sliver-to-yarn spinning frame made by Josef Pfenningsberg & Co., M. Gladbach, Germany, features an overhead creel for 12x12- or 12x9-in. sliver cans and a four-roll super-high-draft system. All existing ring frames can be converted to the direct system with the new creel and draft system.

Each sliver can holds 1.2 kg. (about 3,240 grains), which gives a package two or three times the size of a normal roving-frame bobbin.

The four-roll draft system has two upper aprons, and the sliver is guided in a long curve around the bottom roll. The top roll is spring-weighted, and a reversing rail has a flexible mounting that gives with fiber traction.

With this system, the drafting element has a wider application on short, medium, and long fibers. (A-40)

Spinning Cot

A cot that renews its surface was perfected by Dayton Rubber Co., Dayton, Ohio. The cot virtually eliminates the need for buffing because it constantly renews its gripping surface while in use. Practical elimination of eyebrowing is made possible. Humidity does not affect the cot. Natural- and synthetic-rubber compounds, which are static-resistant and oilproof, do not become glazed or slick in use and lap-ups are minimized. (A-41)

Comb-Box Unit

A doffer comb-box unit, consisting of a comb box, off-end stand, and comb stock and blade, produced by Spintex-Spinnerei Machinenbau, Murrhardt, West Germany, was introduced in the United States and Canada by Lenkotex Co., Inc., New York, N. Y. The comb-box unit is adaptable to all makes of cards. (A-42)

Sandwich Blender

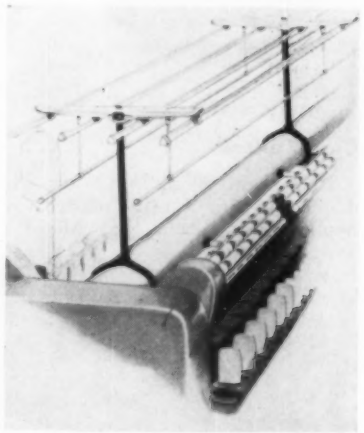
The Rieter Automixer, a fiber-blending machine developed in Switzerland, is now sold in the United States by American Rieter Co., Inc., Arlington, N. J. Production is 1,300 lbs. per hr.

Stock from the bale openers is dropped by a pneumatic delivery apparatus onto a rubber conveyor belt that traverses the entire length of the machine and spreads the stock in layers in the top mixing compartment. From 30 to 40 layers are laid down; the exact number is predetermined and set on a precision-built counter.

When the final layer is placed in the top chamber, the compartment automatically opens and deposits the mass of fiber in the filling or feeding chamber below. (A-43)

Rub Apron

A long-lasting rub apron designed to improve yarn uniformity was developed by Dayton Rubber Co., Dayton, Ohio. The construction of the apron gives it good gripping qualities. (A-44)



Spinning Creel

Pneumafil installations with a built-in creel were announced by Pneumafil Corp., Charlotte, N. C.

Made of smooth-finished aluminum and steel, the creel eliminates slubs formerly caused by lint accumulations.

Based on the findings of aeronautical engineers, the air-foil principle allows air, unobstructed by flat boards, to pass around every creel part and clean all surfaces with a minimum of resistance. (A-45)

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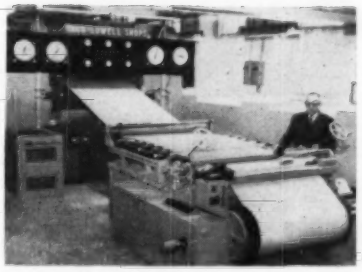
For more information, circle the A-number on Reader-Service post card.

2 TWISTING, WINDING, WARPING, SLASHING



Air Drying Slasher

The Positrol air drying slasher, developed by Saco-Lowell Shops, Boston, Mass., controls the level, temperature, and application of size; temperature and moisture of the air; yarn tension; sheet width in the dryer; loom-beam density; yarn regain; humidity of the exhausted air and humidity in each compartment; press-roll loading; and yarn speed.

Rolled yarn, hard size, overdrying, and similar defects are eliminated. The yarn is brought up to a drying temperature gradually to avoid a surface crust, which traps moisture in the core; and the yarn is dried from the center out.

Two major characteristics of the Saco-Lowell unit are: (1) the movement of air is in the opposite direction to that of the yarn, and (2) the air with the greatest moisture content is in contact with the wettest yarn. (A-46)

Headless Tube

A new bobbin and a headless-package tube for the processing of synthetic yarns were developed by Spaulding Fibre Co., Inc., Tonawanda, N. Y. They offer full resistance to the crushing strength of synthetic yarns in the packaging process. (A-47)

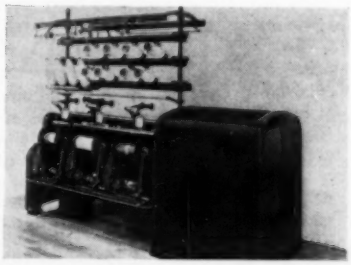
Twister Guides

ALSiMag 193 twister guides for use with Universal holders are available from American Lava Corp., Chattanooga 7, Tenn. The guides are electrical conductors, and they help to control static when grounded through the metal holder. A satin finish is standard; other finishes can be supplied on special order. (A-48)

Reversing Mechanism

Collins Bros. Machine Co., Pawtucket, R. I., announced a reversing mechanism for the top line of feed rolls on its novelty twister. The reversing mechanism changes are rotation of the top line of feed rolls.

The mechanism produces a nubby effect that does not require a binder; the reversing feature securely anchors the nubby effect. Some types of novelty yarns, which now require two operations of twisting, can be produced in one operation with the reversing mechanism in conjunction with the Ultrohead. (A-49)



Redraw Doubler

The Spoolmatic redraw doubler announced by Whitin Machine Works, Whitinsville, Mass., offers an economical method of increasing production of uptwisted multiple-ply yarns.

The electronically controlled machine winds one, two, or more ends onto a double-head spool to form a package that can be used to supply the Whitin Cable-King uptwister or any regular ring twister. Production rate of the machine ranges from 100 to 300 yds. per min. (A-50)

Nylon-Bonding Attachment

A nylon-bonding attachment for winders was developed by Oscar Heineman Corp., Chicago, Ill.

The device eliminates knots and allows large-package, knot-free cones and tubes to be wound. The device cannot be used on tightly twisted yarn. On yarn with a loose twist, the two ends are fluffed together and a drop of bonding agent is applied; then the ends are sealed on a heated plate. A-51)

Cone Winder

A knitting-cone winder for all spun yarns was announced by Schweiter Co., Whitinsville, Mass. A cross-wound package with a progressive taper is built on a paper tube with a taper of 9° 15′. The final taper is about 13°.

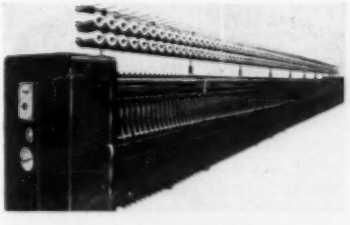
Each winding unit operates independently, and the drive is through a friction disk. All mechanisms are enclosed in an oil-tight casing.

In winding from cops, yarn speed is about 360 yds. per min.; from skeins, production is about 200 yds. per min. (A-52)

Cone Winder for Filament Yarns

The Schweiter Monfil-Coner is designed for filament winding in throwing plants and hosiery mills. Available from American Schweiter Co., Whitinsville, Mass., the coner is a precision cross-winding machine that handles all kinds of filament yarn.

For hosiery mills, the coner can be adapted to produce conical bobbins with laterally beveled flanges—pineapple cones—on paper tubes with a 3° 30′ or 3° 51′ taper. The pineapple cone weighs over 18 oz., and a tapered soft-winding roller is used to make the cones. (A-53)



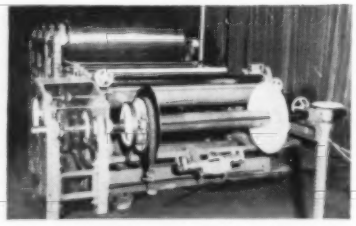
Versatile Cotton Twister

A new cotton twister, M.D.1, was announced by Platt Bros. (Sales) Ltd., Oldham, England. The machine will twist yarns from 8/2 to 160/2 on both the wet and dry systems.

Lifts are available from 6 to 12 ins., ring sizes to 3¼ ins., and gauges to

4¾ ins. Width of the frame is 2 ft. 8 ins.

Change wheels in the head-end gearing have been discarded; twist and lifter speeds are altered by turning a handle. A second handle reverses the rotation of the spindles and delivery rolls. (A-54)



Synthetics Slasher

An all-electric drive is a feature of the multicylinder slasher developed by West Point Foundry & Machine Co., West Point, Ga. The slasher can also be furnished with mechanical tension control.

The slasher is said to satisfactorily size yarns of both spun fibers and synthetic-filament fibers, and the wind-up of the loom beam packs on more yards of either type of yarn. (A-55)

Slub Catcher

A selective slub and knot catcher was produced by Manchester Metal Works Ltd., Salford, England. The device can be set so that weavers' knots are allowed to pass, but the yarn is broken at excessively thick places or badly tied knots. The unit is intended for use principally on winding and doubling frames. It is set by a special box key to give any desired gap, and it can easily be opened to remove slubs and yarn tails and for general cleaning. (A-56)

Top-Drive Spindle

A top-drive filling spindle was added to the line of twister and warp spindles manufactured by Marquette Metal Products Co., Cleveland, Ohio. The spindle features a hardened blade with a tapered seat that drives the bobbin from the top. (A-57)

Spring for Spools

A new spring for the No. 50 winder, developed by Universal Winding Co., Providence, R. I., fits both plastic and paper bobbin spools. (A-58)

Acropak Bobbin

The aluminum take-up bobbins introduced by Acrometal Products, Inc., Minneapolis 7, Minn., can be supplied with or without perforated holes, which are for steaming. (A-59)

Improved Twister Spindle

An improved twister spindle that features simplification of stationary parts and elimination of periodic oiling was announced by Hartford Machine Screw Co., Hartford, Conn.

Practically all machining has been eliminated from the split base that houses and aligns two prepacked ball bearings. (A-60)

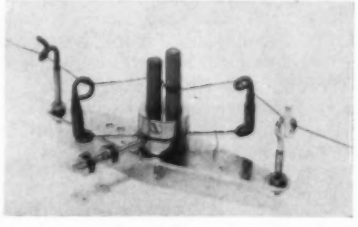
Yarn Dresser for Slashers

A warp afterdresser applied to slashers was announced by Moretex Chemical Products, Inc., Spartanburg, S. C.

The afterdresser applies a light layer of wax-like chemical (but not a wax) to the entire warp sheet after it is slashed. Advantages claimed for the device and chemical product include: (1) raised weaving efficiency, (2) reduced filling breaks, and (3) less lint shedding at the loom. (A-61)

Take-Up Bobbin

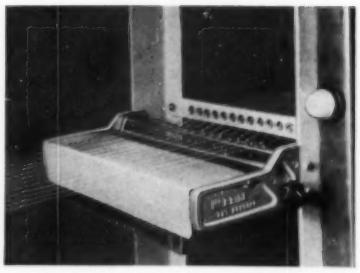
A take-up bobbin made from one continuous piece of aluminum was announced by Allentown Bobbin Works, Inc., Allentown, Pa. The bobbin is said to be especially suitable to Helanca and other nylon-stretch yarns. (A-62)



Redrawing Tension

Heany Industrial Ceramic Corp., New Haven, Conn., announced the Carroll constant-tension device, which uses no springs or magnets to correct or hold a given tension.

When tension increases on the yarn, a movable assembly moves clockwise to equalize tension. As tension decreases from the supply package, the assembly moves counterclockwise back to the original setting for the normal tension. (A-63)



Controls for Warping

A three-way signal light attached to a light channel on McBride magazine creels permits improved warping. Built by Edward J. McBride Co., Inc., Philadelphia, Pa., the light is out when the creel is operating normally; it goes on instantly when an end breaks in order to spot the location for the operator; and it flashes when the locking bar is in the drawing-in position to remind the operator to drop the bar before warping begins. (A-64)

Yarn Conditioner

A yarn-conditioning and bobbin-marking attachment for Abbott quillers was announced by Mona Industries, Inc., Paterson, N. J. The full bobbin is dropped from the winding head onto a plush-type fabric that is soaked in conditioning liquid. The plush covers a perforated metal plate that is partly immersed in a trough of liquid.

Moisture added can be controlled between 3 and 15%. Stripes, numbers, or letters can be imprinted on the bobbins. (A-65)

Tension Control

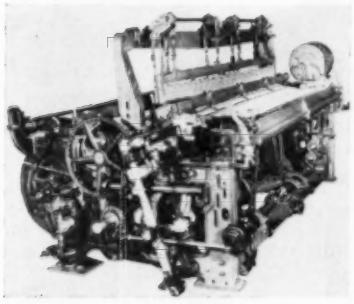
A new vertical tension control for the No. 50 winder was announced by Universal Winding Co., Providence, R. I. Tension and pressure can be adjusted independently, which provides better control of tension throughout the package. (A-66)

Moisture Monitor

Two automatic controllers are offered as plug-in units for Moisture Monitors now in service on slashers and finishing machinery. Strandberg Engineering Laboratories, Greensboro, N. C., makes the instruments. (A-67)

For more information, circle the A-number on Reader-Service post card.

3 WEAVING



Wide Sheeting Loom

Draper Corp., Hopedale, Mass., developed a wide sheeting loom that runs 20% faster than other sheeting looms. The loom, a 90-in.-wide XP-2 model, operates at 142 ppm. on sheeting of 90x94 construction woven from 32s warp yarn and 40s filling yarn.

Strengthened loomsides and extra-heavy bracing combine with the lowered camshaft to reduce loom vibration. Four camshaft center boxes and middle girders are used. The loom has a No. 6 Draper-Diehl power transmitter incorporated with a positive frog knock-off on the right-hand end. Yarn beams are 26 ins. in diameter. Shuttles are 18½ ins. long and 2⅛ ins. wide; a 10¼-in. bobbin can be used on special weaves. Cloth on the cloth roll has a maximum diameter of 15 ins.

Other features of the loom are: (1) A No. 30 push-type knock-off, which operates by a direct push rather than by impact, gives smoother, easier action. (2) A simplified No. 25 Stafford thread cutter, with 20 fewer parts in its assembly, permits easy adjustment and less maintenance of settings. (A-68)

Shuttleless Looms

Two shuttleless looms were announced by Kovo, Prague, Czechoslovakia. Both looms use jets in place of shuttles to insert the filling yarn into the warp.

A small loom with a reed space of 17½ ins. weaves cotton cloth at 700 ppm. The filling is inserted with a stream of air escaping from a jet and is taken from a cone of yarn.

The second loom has a reed space of 42 ins. and uses jet-propelled water to insert the filling. (A-69)

Loom Weaves Metallics

A small loom for weaving place mats from metallic yarns is being sold by John Dritz & Sons, New York, N. Y. (A-70)

Weaving Without Knots

Weavers don't need to tie knots if they use Splicegrip, a fast-setting flexible adhesive manufactured by Adhesive Products Corp., New York, N. Y. (A-71)

High-Speed Italian Loom

A loom that weaves 28-in.-wide cotton cloth at 700 ppm. was said to be in the works at the Ripamonti Works, Orsenigo, Italy. Patents are covered by Gantilini-Ripamonti. Between 20 and 40 of these looms are being tested in textile mills.

The loom weaves pick-and-pick designs with 20 to 40 colors of filling. Filling is taken from a supply package capable of lasting 48 running hours. False selvages are made with a tucking device at each edge of the cloth. (A-72)

Static Eliminator for Looms

The Portland Co., Portland, Me., announced an effective static eliminator for looms. The eliminator is electrically operated and has a small power unit that energizes one or two inductor bars, as necessary, installed across the width of the loom.

These inductor bars provide a constant field of ionized air, which neutralizes charged ends. (A-73)

Tufting Machine

A 208-in. tufting machine was developed by Super Tufter Co., Inc., Fort Oglethorpe, Ga. The machine is equipped with a dual drive, which is directly connected to the main shaft, and a yarn feed. It produces full-room-size floor coverings and rugs of smaller sizes with a cut pile, short loop, or long loop. (A-74)

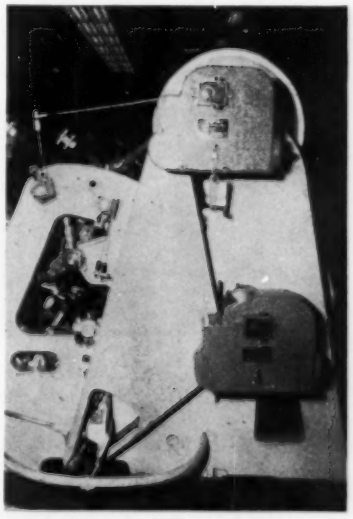
Loom for Carpet Backing

Looms of heavy construction, designed to weave jute backing for tufted carpets, are being manufactured by Urquhart Lindsay & Robertson Orchar Ltd., Dundee, Scotland. The looms have various-width reed spaces between 134 and 252 ins. to weave the backing fabric for 9-, 12-, 15-, and 18-ft. carpets.

Two patterns of fabric can be woven, plain or broken twill. Rolls of cloth from 250 to 300 yds. in length can be woven at the loom in one piece. (A-75)

Loom Pick Ball

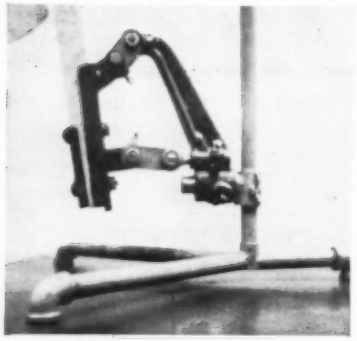
More-uniform picking action is possible with the oval pick ball developed by Draper Corp., Hopedale, Mass. The curved contour of the face of the improved pick ball eliminates excessive heel or toe picks. The ball is said to be of particular value to mills running X and X-2 looms where tracking troubles have occurred between the pick ball and pick-cam toes. (A-113)



Automatic Warp Let-Off

Automatic warp let-off units, built by George E. Clentimack Co., North Attleboro, Mass., suitable for all warp-knitting machines and for looms that require coordination between the feed and take-up units, were offered. The

unit helps to rid fabrics of shade marks and give better control of fabric weights from piece to piece. (A-76)

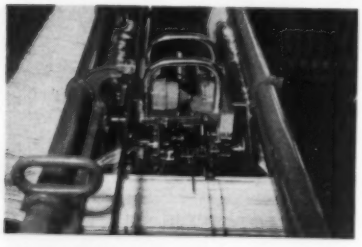


Parallel Motion

A linkage parallel was developed by Southeastern Loom & Machine Works, Greenville, S. C. The parallel controls the path of the picker. Settings are retained, and loom speeds can be increased depending on the cloth woven. (A-77)

Open-Shed Jacquard

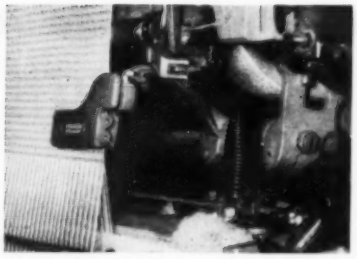
An open-shed jacquard was developed by Samuel Dracup & Sons Ltd., Bradford, England. The manufacturer claims that warp ends are raised or lowered only when it's necessary to change their position in the woven cloth. The new jacquard is being made for warps of 400 to 4,000 ends. (A-78)



Warp-Tying Machine

A new patented model of the Poege warp-tying machine, made in Germany by Maschinenfabrik Oskar Fischer, is available in the U. S. from Stellite American Corp., New York, N. Y. It is a universal machine adaptable for all kinds of warps except jute. Available widths: 44, 60, 76, and 93 ins. between beam flanges.

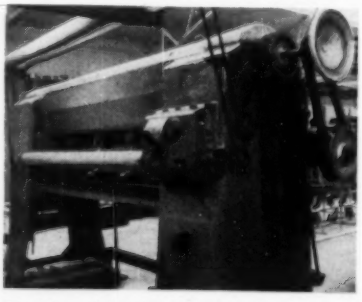
Production: 250 knots per minute; 10 warps of 4,000 threads per day. Fine threads can be tied to coarse threads. Weight is about 30 lbs. (A-79)



Loom Temple

An underslung temple that completely eliminates the chance of getting oil, rust, or dirt on the woven cloth was developed by Draper Corp., Hopedale, Mass.

The temples need no lubrication and will not wear out of line. A new scissors-type thread cutter permits the filling to be cut closer to the selvage and reduces the danger of drag-ins. The underslung temple is currently available for XD-Model looms equipped with center fork filling motions. (A-80)

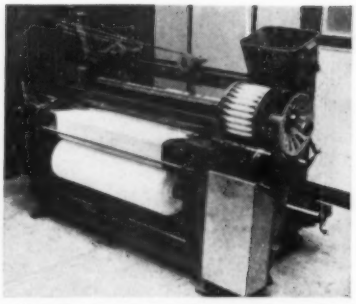


Tufting Machine

A needle tufting machine was developed by Tufting Machine Ltd., London, England, and exported by White, Child, and Beney Ltd. to produce carpets at 4½ yds. per min.

The machine is fed from cones of yarn on a magazine creel. A prewoven backing fabric is fed into the machine, and the needles tuft the yarn through the cloth in a series of loops. Each loop formed is held by a looper, and a reciprocating cutter bar cuts the loops.

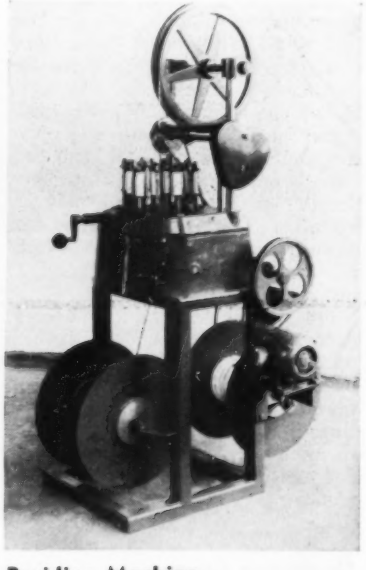
The number of tufts per inch lengthwise are varied by a gear lever on the front of the machine; a minimum of 6 and a maximum of 12 tufts per inch are placed in the fabric backing. The tufts per inch widthwise are determined by the gauge of the needles, and this distance cannot be altered. At present, machines are being made to 4-mm. and 4.7-mm. gauges. (A-81)



Bobbin-Changing Loom

A fully automatic bobbin-changing loom was announced by Henry Livesey Ltd., Blackburn, England. The loom, Model AX, incorporates a rotary magazine and automatic warp let-off.

The loom employs a large-diameter yarn beam and is arranged so that a large roll of cloth can be woven before the cloth is doffed. Bobbins up to 8¾ ins. long can be transferred by the magazine. Several types of harness motions are available with capacities up to 20 harnesses. (A-82)



Braiding Machine

A braiding machine distributed by Ervin E. Kobor, Flushing, L. I., N. Y., was said to produce 70% more material than conventional machines although it weighs only 20% as much. The machine is manufactured for 8 to 32 bobbins and will braid odd numbers of yarn. A broken yarn end or an empty bobbin stops the machine automatically. The machine produces 400 to 530 yds. of braiding every 8 hrs. (A-83)

CONTINUED ON PAGE 210

For more information, circle the A-number on Reader-Service post card.

4 KNITTING

Hosiery Dyeing and Finishing

A new machine developed by Dyotherm Corp., Clementon, N. J., preboards, dyes, dries, and final boards about 100 doz. nylon hosiery per 8-hr. shift. The machine eliminates pinning, sorting, dyeing machines, and the folding and placing of stockings in dye bags.

The cycle starts when the form ring, which holds 48 stocking forms, slides to the processing position.

A bell is hydraulically lowered over the stockings to be dyed and locked and sealed in position. Dye solutions are sprayed from revolving heads. The liquor falls into the base of the dye chamber and is recirculated through the system.

Heating coils in the base of the bell keep the temperature to about 230°F. This high temperature allows preboarding to take place in the 4½-min. dyeing cycle. The dye solutions are then exhausted, and heated air is blown through the bell for the drying cycle. The metering tank is filled for the next cycle during drying.

The bell then rises and the table moves to its original position so that the stockings on the forms can be removed while the stockings on the second form ring move into position to be dyed. The form ring turns slowly while it is loaded and unloaded, and it can be removed for quick change-overs to fresh sizes. (A-84)

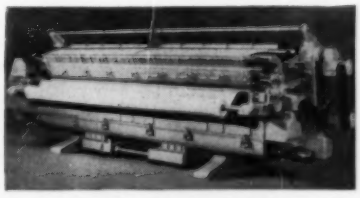
Flatlock Machine

The newest Flatlock machine for knit goods developed by Willcox & Gibbs Sewing Machine Co., New York, N. Y., features automatic lubrication that eliminates the oiling of 20 points. The machine operates at speeds up to 4,000 stitches per minute. (A-85)

For Long-Length Hose

Scott & Williams, Inc., Laconia, N. H., developed a new attachment for raising the head of the KN machine to accommodate a longer automatic tension device.

This new mechanism is useful in knitting extra-long or opera-length stockings or in using a yarn similar to Perlon, which knits stockings of longer length, off the machine, than nylon. (A-86)



High-Speed Tricot Machine

The F.N.F. machine, built by F.N.F. Ltd., Burton-on-Trent, England, is now made in 168-in. widths and runs at a continuous speed of 900 courses per minute. Kidde Mfg. Co., Inc., Bloomfield, N. J., will build and sell the machine in this country.

The machine uses the tubular needle. Knitting movements are obtained from double eccentrics. To avoid torsion, the drive is taken about half way along the machine by a third shaft. A new type of continuously driven take-up guarantees constant quality and yield throughout the whole run from 2- to 6-in.-dia. beam sizes. (A-87)

Ball-Bearing Burr

Precision Knitting Machine Co., Syracuse, N. Y., offered a ball-bearing burr for spring-needle knitting machines. Cast-off, lander, clearing, and combination burrs that require no lubrication are available. (A-88)

Bobbin Holder

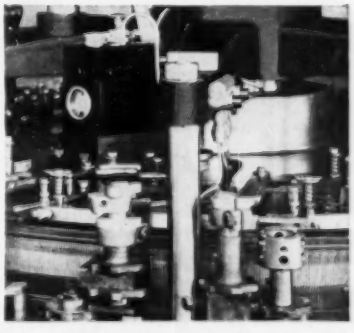
A bobbin holder manufactured by Jacquard Knitting Machine Co., Inc., Philadelphia, Pa., was offered for use on revolving-head circular knitting machines. This bobbin holder firmly holds in place, under spring pressure, a wide range of yarn-cone sizes. These holders are now standard equipment on all Jacquard machines. (A-89)

Argyle-Sock Trimmer

A rotary argyle-sock trimmer was built by Ginsberg Machine Co., Inc., New York, N. Y., to trim and turn 240 doz. socks per day with one operator. The machine can be operated with large suction turbines or as a self-contained unit. (A-90)

Hosiery Needle Oil

A needle oil to overcome the difficulties of high-speed fine-gauge knitting operations was announced by Shell Oil Co., New York, N. Y. Called Vexilla Oil 117, the new product includes an inhibitor to prevent rust formation for several days whether the machine is idle or not. (A-91)

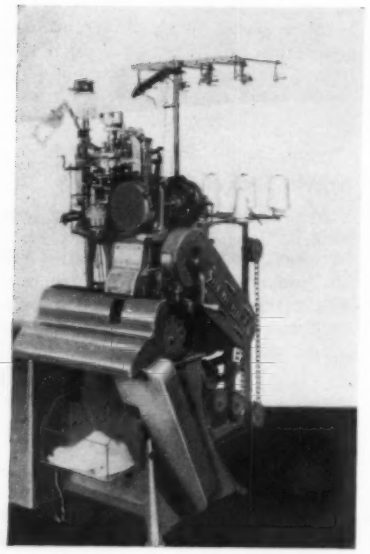


Automatic Lubricator

Jacquard Knitting Machine Co., Inc., Philadelphia, Pa., announced it is now including as standard equipment on transfer-type machines a Bijur oiling device to lubricate the cylinder and dial needles, the main dial-shaft bearing, and the dial-cap bearing.

The device consists of a combina-

tion reservoir and pump mounted on the dial cap, feeder tubes to the cylinder, dial, and dial bearings, and pump-actuator cams mounted on a stationary hub. The amount of oil dispensed depends on the speed of the machine and the number of stationary hub cams, which range from one to eight. (A-92)



Seamless-Hosiery Machine

A new hosiery machine built by Hemphill Co., Pawtucket, R. I., is known as the Hemp-Lon Kleer-Stitch Model-H. L. machine. The machine has two feeds to knit a woman's stocking in 10 mins. The Hemphill system of knitting has been adapted to eliminate double-feed unevenness. There are seven yarn levers and only two needle-built lengths. (A-93)

Jacquard Knitting Machine

Model TJI-12, made by Jacquard Knitting Machine Co., Inc., Philadelphia, Pa., combines interlock, rib, jersey, and jacquard production. The model knits all yarns but was developed primarily for tow-dyed Orlon. The machine comes in 30-in. dia. up to 14 needles per inch, with 12 knitting feeds and eight transfer systems.

A separate interlock-cam arrangement allows the machine to knit interlock fabric with the jacquard mechanism. In knitting jacquard fabric, the interlock raising cams are put out of action. (A-94)

Knitting Stop Motions

Four electric stop motions for circular-hosiery machines were developed by Edley Machine Co., High Point, N. C.

The stop motions include yarn, needle, and wrap-yarn stop motions and a device that prevents socks soiling on the floor.

The yarn stop motion is particularly suited for rubber yarns, but different weights of dropper will take care of all yarns.

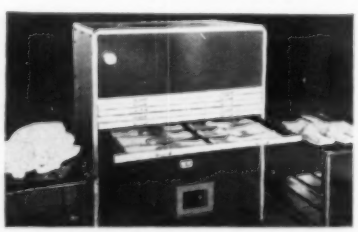
The needle stop motion is simplicity itself. An insulated bar holds a curved contact, which touches any broken, open, or stiff latches to instantly stop the machine. The contact is pulled away from the needles by the pattern-drum control during the makeup courses.

The wrap-yarn stop motion is an insulated metal ring above the yarn tension springs. Broken or relaxed yarns cause the tension spring to rise and touch the metal ring. (A-95)

Hosiery Inspection

The Model 6,000 inspection machine built by Southern Textile Machinery Co., Paducah, Ky., features an air-operated expanding and collapsing form for seamless and full-fashioned stockings.

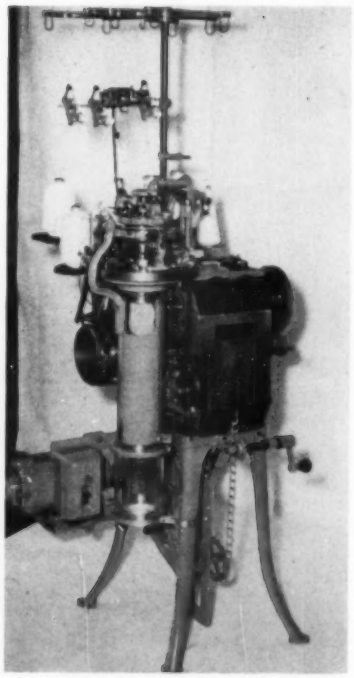
The stocking can be removed from the form when the form is collapsed. Turning is done by drawing the stocking through the form. The machine is quickly converted from stacking to bagging. (A-96)



Boardless Dryer

Turbo Machine Co., Lansdale, Pa., announced a new boardless dryer for manufacturers who want a substitute for final boarding.

Production is up to 500 doz. pairs of stockings in 8 hrs. Machine capacity is 18 doz. pairs, 3 doz. in each of the six drawers. (A-97)



Seamless-Hosiery Machine

The Carolina Model 2F-500 women's seamless-hosiery machine, made by Morris Speizman Co., Inc., Charlotte, N. C., has two feeds and 500 needles in a 3¾-in. cylinder.

The machine is also available in 474- and 400-needle cylinders. (A-98)

Transfer-Applying Machine

The Ashe transfer-applying machine supplied by Jarrel Bullard Co., Charlotte, N. C., will apply up to 1,500 doz., transfers per 8-hr. shift. The machine can apply one, two, or three transfers simultaneously to one stocking. (A-99)

Sample Knitter

A hand knitting machine, designed by Max Lehner & Co. A. G., Granichen, Switzerland, was introduced for making experimental fabric designs and samples. The machine is marketed in this country by Textile Products Div., Norca Machinery Corp., New York, N. Y. Weighing 12½ lbs. and capable of producing 10,000 stitches per minute, the machine permits an average-skilled operator to produce a sweater in about 1 hr. or a complete dress in about 6 hrs. (A-100)

For more information, circle the A-number on Reader-Service post card.

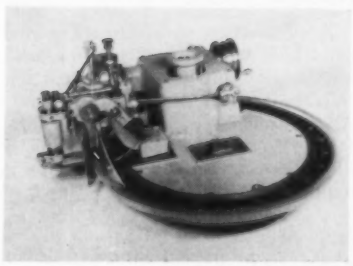
Preboarding and Boarding

The Sarco preboarding and final boarding machine, built for Southern Mill Equipment Corp., Charlotte, N. C., is for men's, children's, and misses' socks and ankle socks.

Since steam or moisture is not used, bleeding, fading, and running of colors are eliminated. **(A-101)**

Hosiery Inspection

Simplicity is one of the features of a pneumatic inspection machine built by Southern Textile Machinery Co., Paducah, Ky. The machine is designed primarily for the inspection and turning of women's seamless hosiery. The production from this machine is not as high as the production from the Sotco model. The price of the pneumatic machine is $1,300 f.o.b. Paducah. **(A-102)**



Sweater Looper

The Model ST sweater looper, built by John W. Hepworth & Co., Inc., Philadelphia, Pa., is a single-needle machine with the sewing mechanism on the left side. As the fabric passes through the sewing needle, a stripper guide strips the fabric off the dial points. **(A-103)**

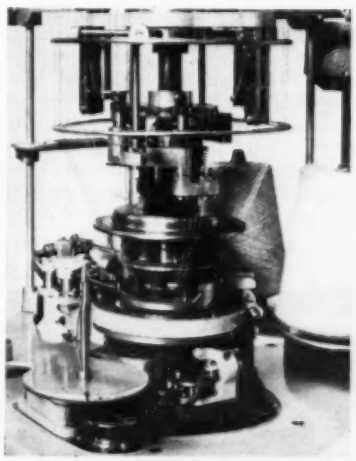
Stitch-Transfer Machine

A hand-operated stitch-transfer machine is available from Ainslie Knitting Machine Co., Inc., Brooklyn, N. Y. Stitches can be transferred between the front and back needle bed with all needles, high-butt only, low-butt only, or with selected needles. Five- to 12-gauge machines are available in 48-in. widths. Cardigan, tubular, welt, and knop stitches can be knitted. **(A-104)**

Flat Knitting Machine

An automatic flat knitting machine developed by Dubied Machinery Co., Long Island City, N. Y., is suited for rib bottoms used on full-fashioned sweaters.

The DRL machine is built 60 ins. wide with up to 14 needles per inch. The machine is a double-lock machine and operates at 28 courses per minute. **(A-105)**

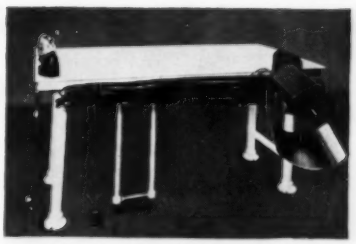


Wrap-Stripe Machine

A feature of a hosiery machine built by Trent Engineering Co. Ltd., Nottingham, England, is a rotating cam box that allows speeds of 170 to 180 rpm. and a wide variety of patterns throughout the knitting of the sock.

The wrapping head can be shogged over 12 needles. The pattern fingers have 18 heights of butt. The pattern mechanism is introduced by a simple lever movement and is automatically canceled when making the heel and sole portions.

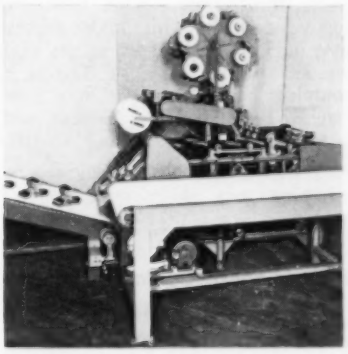
The Trent machine is available with 168, 176, or 200 needles in cylinder diameters of 4 ins., 3¾ ins., or 3½ ins. **(A-106)**



Hosiery Examining Form

An automatic expanding examining form, built by Textile Machine Works, Reading, Pa., doubles the production of the Reading hand-operated form. The simplified design reduces operator fatigue. The form corresponds to the shape of the stocking and expands the stocking from toe to welt. An adjustment screw provides for stretch regulation.

The unit can easily be changed to process stockings for the Dunn system or for preboarding. Stockings are examined on the wrong side out, and they are automatically turned as they are removed from the form. The inspection cycle is stopped for removal of rejects by a foot-operated switch. **(A-107)**



Transfer Machine

The Model 200 Bowman automatic transfer-applying machine is available from Southern Mill Equipment Corp., Charlotte, N. C.

The table has an intermittent action that feeds the goods as desired to the operator and places them on the transfer-applying conveyor. **(A-108)**

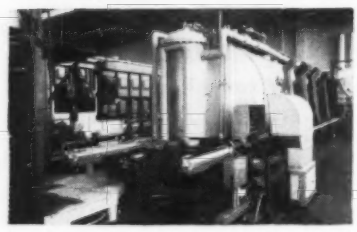
Needle-Pliering Projector

The Oerlikon needle-pliering projector, made by Oerlikon Machine Tool Works, Buehrle & Co., Zurich-Oerlikon, Switzerland, is used for test-

CONTINUED ON PAGE 218

For more information, circle the A-number on Reader-Service post card.

5 BLEACHING, DYEING, FINISHING



Automatic Dyeing Machine

Proctor & Schwartz, Inc., Philadelphia, Pa., developed the Proctor-Bailey Electrocolorset machine for continuous dyeing and finishing of women's hosiery. Production of 100 to 120 doz. pairs of hose per hour is possible, with automatic electronic control of the dye solutions.

In operation, the boarded hose move on small trucks into an airlock, where pressure is raised to correspond with pressure in the processing chamber. The hose pass into the processing chamber, where they are scoured and given three rinses. The hose are sprayed with dye while under a pressure of 5 to 30 lbs. per sq. in. and temperatures up to 250° F. Dyeing is complete by the time the hose have reached the end of the chamber, and exit is through another airlock. (A-109)

Electric Cloth Guiders

The new electric guiders made by Guider, Roll & Service Co., Daytona Beach, Fla., are equipped to dissipate the flash or hot arc that heretofore has caused switch contacts to burn. The guiders, called Hetherington Super Electrics, also have an arrangement whereby the position of the rubber cradle roll can be adjusted in relation to the front or stationary roll. (A-110)

Zeolite Water Softeners

Water softeners that can be supplied with natural or artificial zeolites or synthetic resins, as required, were announced by Cochrane Corp., Pittsburgh, Pa. (A-111)

Edge-Guide Control

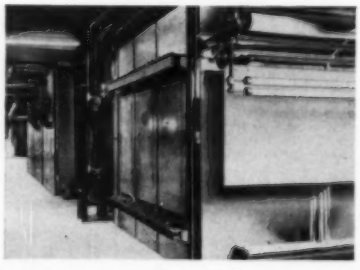
A twin-jet regulator that features two complete and independent hydraulic controllers in one housing was announced by Askania Regulator Co., Chicago, Ill. (A-112)

Automatic Guider

An electrically operated guider designed for let-off stands was introduced by Hermas Machine Co., Hawthorne, N. J. The guider delivers unevenly wound fabric to other processing in a straight line. (A-114)

Washer

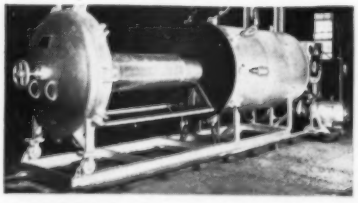
Wiesner-Rapp Co., Inc., Buffalo, N. Y., introduced its Multistage washer designed for soaping, washing, or other chemical processing of textiles. The machine is divided into compartments, and overflow slots on alternate sides of the compartments insure counterflow of treating liquors. Other features include low water consumption and production up to 300 yds. per min. (A-115)



Curing-Drying Oven

A three-section curing oven made by James Hunter Machine Co., North Adams, Mass., is also an efficient drying unit. Holding 69 yds. of 40-in. fabric, the dryer removes from 720 to 900 lbs. of water per hour from cotton, wool, and other fabrics.

The gas-fired dryer delivers air to both sides of the fabric for even drying or curing. Fabric tension is low, and maintenance and operation are made easy by large access doors. (A-116)



Pressure-Dyeing Machine

Burlington Engineering Co., Inc., Graham, N. C., introduced a pressure-type machine being used to boil off, bleach, or dye cloth made of natural and synthetic fibers. A sample chamber that receives a proportionate flow of processing liquors carries a sample of the fabric being processed. It is arranged so that it may be cut off from circulation and opened to check the progress of the dyeing or used as a means of introducing more dye or chemicals during pressure dyeing cycles. (A-117)

Washer-Extractor

The Unit Wash Corp., Plainville, Conn., improved its Unitwash combination washer-extractor to make it especially adapted to washing knit goods. Washing speeds can be adjusted to suit any type of goods, and temperatures can be regulated to meet requirements of any fiber. (A-118)

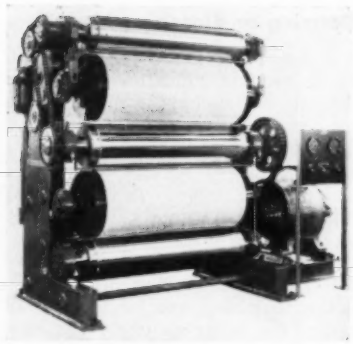
Horizontal Pads

A new series of pneumatic-loaded padders in two-, three-, and four-bowl models was announced by Bentele-Werke A. G., Bielefeld, Germany. All are characterized by horizontal rolls that permit feeding liquor directly into the nip. Small liquor volume is required. (A-119)

Sewing Machines

A new line of curved-needle overseaming machines, Class 39500, was announced by Union Special Machine Co., Chicago, Ill. Available machines include two- and three-thread units designed to handle seaming, welting, hemming, overedging, and serging operations. (A-120)

For more information, circle the A-number on Reader-Service post card.

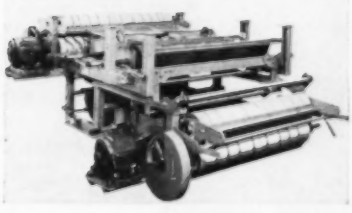


Open-Side Calenders

Textile Machinery Div., McKiernan-Terry Corp., Dover, N. J., developed a series of multiple-roll calenders of open-side construction. Versatility of the design permits the machines to be used for rolling, friction, schreinering, and embossing purposes. The calenders are supplied in 15- to 60-ton capacities in three-, four-, and five-roll types. **(A-121)**

Improved Guider Roll

A cradle roll 2¾ ins. in diameter for all types of air guiders features an extra-thick rubber covering that will provide longer service than can be expected from standard rolls of 2½-in. dia. Available from Guider Roll & Service Co., Daytona Beach, Fla., the new roll has ¾ in. of rubber, which gives extra stock to work with when regrinding is necessary because of local wear on the cradle roll. **(A-122)**



Double-Tier Scray

The double-tier scray made by Cook P&N Machine Co., Boston, Mass., makes possible continuous operation of processes handling two strands.

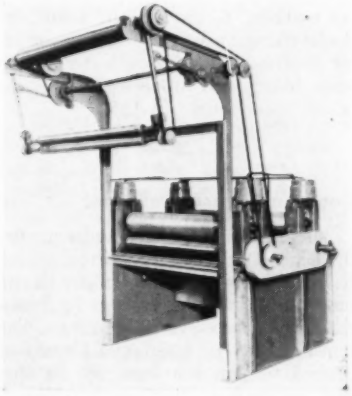
In printing, white goods can be stored in one section and back grays in the other. Automatic controls on each scray stop the machine when scrays are full. The machine starts again when a predetermined yardage has been run off. **(A-123)**

Quick-Opening Door

The Patterson-Kelley Co., Inc., East Stroudsburg, Pa., announced an improved door for pressure vessels. **A-124)**

Measure-Matic

The CRA Measure-Matic, an all-purpose fabric-measuring, -examining, and -rewinding machine, was announced by Cutting Room Appliances Corp., New York, N. Y. The machine provides a fast, accurate means of checking materials for damages, accurate yardages, double folding, inventory, splitting bolts, and packaging fabrics. It works from tube to tube, board to board, tube to board, and flat fold to tube or board. **(A-125)**



Dual Saturator

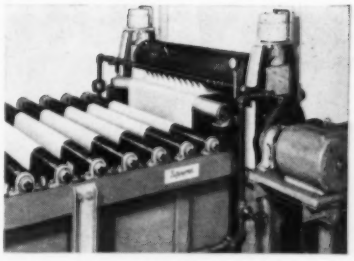
A double pad, operating as one unit for the application of finishes, wetting out, or other dyeing and finishing operations, was developed by Wiesner-Rapp, Inc., Buffalo, N. Y.

Two pairs of 8x50-in. squeeze rolls are mounted over separate stainless-steel pad tanks supplied with immersion rolls. The top rolls are rubber covered, and the bottom rolls are of stainless steel.

A roll-type folder is supplied at the delivery end of the saturator. The folder has a maximum swing of 48 ins. **(A-126)**

Extractors

Two improved Bock extractors, 50- and 25-lb. models, are available from Blake Machine Co., Fair Lawn, N. J. The motors are located on the outside of the extractor for accessibility. Textile uses include silk- and rayon-soaking operations, skein drying, and extracting in hosiery dyehouses. **(A-127)**



Washer Spray

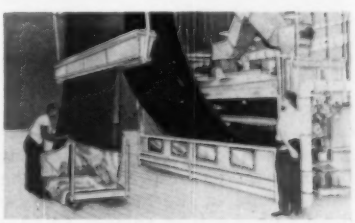
An improved Emerson spray that provides complete coverage of cloth from 24 to 256 ins. in width was announced by H. W. Butterworth & Sons Co., Bethayres, Pa.

Stainless-steel nozzles with grooved orifices are set in the shower pipe at a 5° offset, providing a fan-shaped spray with no interference from adjacent nozzles. Nozzles are kept clean by the action of stainless-steel brushes. An internal flush valve permits flushing of the pipe to remove foreign matter. **(A-128)**

Guider Roll

An improved guider roll was announced by Mount Hope Machinery Co., Taunton, Mass. Delicate fabrics, such as light rayons, marquisettes, lace, and gauze, can be opened or guided without danger of fraying.

In a test installation, sheeting up to 120 ins. is opened horizontally at high speeds without losing cloth from the nip. Since the scutcher is eliminated in new installations, the equipment cost is less. **(A-129)**



Rug Kettle

A new stainless-steel rug dye kettle was developed by Riggs & Lombard, Lowell, Mass. Features: level dyeing, no shading from side to side, a fast dyeing operation, and low steam and water requirements. Only one rinsing bath is needed.

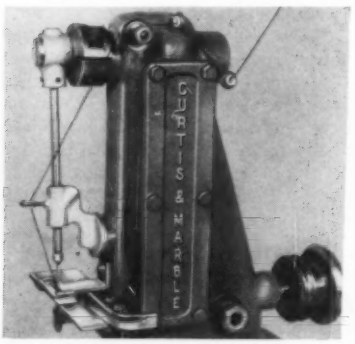
Dye is mixed and brought to the boil in the mixing tank with a steam dart nozzle; then it is transferred to a

For more information, circle the A-number on Reader-Service post card.

distributing pipe for quick, even distribution. Salt is introduced in the same way. (A-130)

Carpet-Shearing Machine

The carpet-shearing and brushing machine manufactured by Kettling & Braun in Germany is available through Stellite American Corp., New York, N. Y. The machine has a double shear, a brush, carpet-guide mechanism, cross brush attachment, nap-raising attachment, and a suction fiber-removal device. (A-131)



Tacking Head

A high-speed tacking head is available from Curtis & Marble Machine Co., Worcester, Mass., for applications where the cloth is automatically guided through the tacker, especially in tandem with a scray and soaper or other high-speed equipment. (A-132)

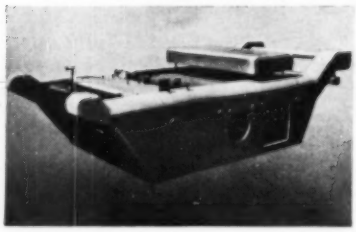
Beaming and Sewing

A beaming and sewing machine was developed by Birch Brothers, Inc., Somerville, Mass. The machine is fitted with a chain stitch or butt-seam railway sewing machine, and the head returns to the beginning end automatically.

Cloth speed is kept constant through a fluid-drive arrangement. The entering end of the machine can be fitted with a pair of guiders. (A-133)

Printing Machine

The Printmaster 54, built by Etablissements A. Dick in France and Switzerland, features pneumatic control of print-roll pressure and an automatic pattern repeat working through a differential gear with motor drive. Improved blanket-washing facilities and fabric-drying equipment permits speeds up to 150 yds. per min. (A-134)



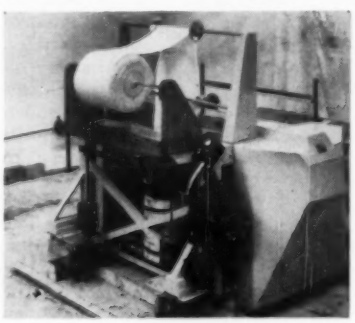
Shrinking Machine

The Sucaltex shrinking machine, suitable for fabrics in all widths to 72 ins. and any thickness, was developed by Sucal Ltd., London, England. Production: 10 to 40 yds. per min. Heavy materials 15 to 20 yds. per min. The average speed over a wide range of dress, suiting, and overcoating fabrics is 25 yds. per min.

Pastel shades can be processed without marking, damage to the finish, or shade change. Interchangeable units for applying insecticides, water repellents, filling, and softening agents can be accommodated. (A-135)

Constant-Tension Winder

The Temco hydraulic winder, made by Temco Winders, Inc., Providence, R. I., will wind material of any thickness, width, weight, or type of material at a wide range of linear speeds, tensions, and roll build-ups. Once the desired tension has been set on the dial, no further attention is required from the operator regardless of the number of rolls wound. (A-136)



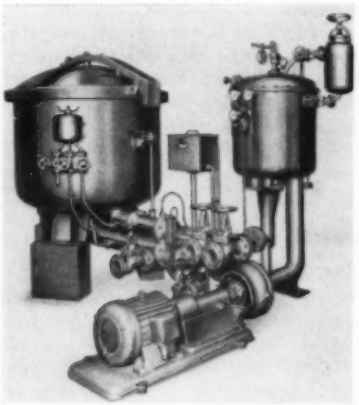
Portable Rotary Press

The Bates rotary press for T-shirts, athletic shirts, jockey shorts, children's panties, etc. is available from Garment Finishing Equipment Corp., Cambridge, Mass. A feature of the press is an attachable calendering unit that permits the finishing of tubular fabrics at 15 yds. per min. (A-137)

Desizing or Bleaching

A continuous processing range, said to be suitable either for open-width desizing or bleaching, was announced by Benteler Werke, A. G., Bielefeld, Germany. Capable of handling fabrics from 32 to 56 ins. in width, it will produce from 45 to 85 yds. per min., depending on the fabric being treated.

One of the advantages claimed for this range is that steaming, impregnating, batching, and washing are all carried out under vacuum. Temperatures can be maintained exactly as wanted, and heat losses are kept at a minimum. (A-138)



High-Temperature Dyeing Machine

Package-dyeing machinery that can be operated at up to 35 psi. was offered by H. Kranz Maschinenfabrik, Aachen, Germany.

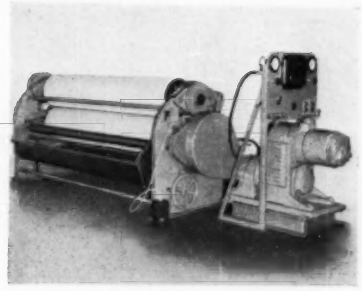
Stainless steel is used wherever dye liquors contact the machine. Heating coils for the dye liquor are contained in the expansion tank. Cooling coils are built into the bottom of the dyeing chamber. (A-139)

Selvage Uncurlers

Improvements were made in the selvage uncurlers manufactured by Guider, Roll & Service Co., Daytona Beach, Fla. As originally designed, the machine had to be installed at the angle of the cloth guider.

On the new models, the Taker-Outers have flexible knuckles for adjusting the spirals of the machine to the best angle. The nip adjustment can be made while the machine is in operation, and the spiral can be accurately set. (A-140)

For more information, circle the A-number on Reader-Service post card.

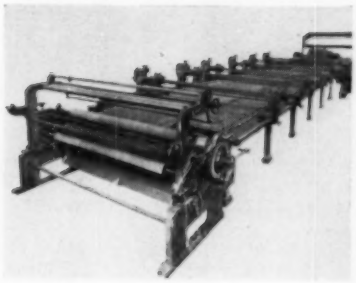


Two-Roll Mangle

Birch Brothers, Inc., Somerville, Mass., announced a new two-roll sizing mangle or padder.

The machine is fitted with a stainless-steel pan with three immersion rolls, and the pan is adjustable in height; so the material can be improved and run through the nip with the bottom squeeze roll revolving in the liquor to feed it up to the material being run.

The 7½-hp. motor drives through a variable-speed unit. The nip is guarded by an electric eye, which stops the machine and raises the top roll when the beam is interrupted. The machine can be used for padding, sizing, resin treatment, extracting, etc. It is made in 5-, 10-, or 15-ton capacities. Widths up to 20 ft. **(A-141)**



Screen-Printing Machine

A high-precision machine that can produce 10-color screen prints was developed by Italian Comerio Ercole Co., Busto Arsizio, Italy. Suitable for continuous designs or broken patterns, the machine will produce four-color prints at the rate of 2,650 yds. per day with two operators. **(A-143)**

Selvage Marker

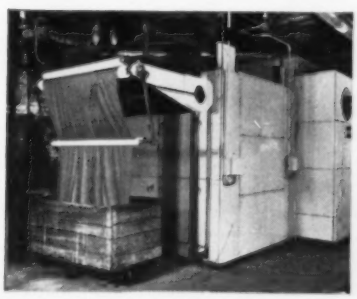
The Mark-Fix 3, a device that puts thread tags in selvages on the loom, the inspection table, or in the dyehouse, was announced by Uster Corp., Charlotte, N. C. The Mark-Fix 3 inserts colored thread loops to mark cloth for defects, mispicks, spots, streaks, and where marking is now done by hand sewing. One Southern mill uses Mark-Fix 3 to make shift marks. **(A-144)**

Wool Drying Oven

Wessburg & Tulander Pty. Ltd., Alexandria, N.S.W., Australia, introduced a wool drying oven that consumes less than 1.75 lbs. of steam per pound of water evaporated. Recirculated air is temperature-controlled to retain the natural appearance and handling qualities of the wool. Reverse flow of the air in alternate compartments insures even drying. A two-section machine will dry 200 lbs. of wool per hour. Extra sections can be added to increase production. **(A-146)**

Coating Machine

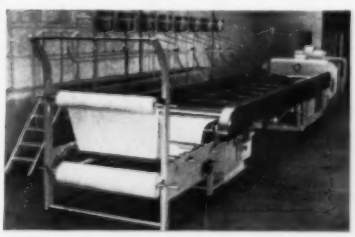
A laboratory-size Universal roller coating machine available from Mawaco Machine Co., Brooklyn, N. Y., will duplicate mill conditions for experimenting with small pieces of fabric and small batches of compounds. **(A-147)**



Curing Oven

Spooner Dryer & Engineering Co. Ltd., Manchester, England, offered a curing oven for resin-finished goods that incorporates a steam-heated predrying chamber and a curing chamber that may be heated by gas or electricity.

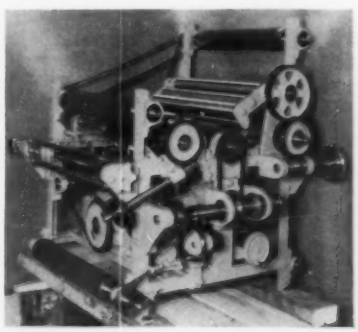
The predrying chamber in the Spooner unit removes all excess moisture in the fabric by conducting hot air through special nozzles that insure even drying and raise the temperature of the fabric. The cloth then passes into the curing chamber proper and is there subjected to the extra amount of heat required for curing. **(A-142)**



Screen-Printing Machine

The Stork screen-printing machine developed by Gebr. Stork & Co.'s Apparatenfabrieck, N. V., Amsterdam, The Netherlands, is fully automatic. Cloth transport and squeegees are actuated by crank mechanisms with micro adjustments to insure perfect repeats and squeegee travel.

Capacity of the machine is 2,000 to 3,000 yds. per 8-hr. shift in lots of 300 to 1,000 yds. per color. The standard machine is designed to print five colors with a maximum 24-in. repeat, six colors with a maximum 20-in. repeat, and eight colors with a maximum 16-in. repeat. **(A-145)**



Weft Control

Fieldcrest Mills, Inc., Spray, N. C., developed a weft-straightener control based on a new principle of bias detection. The fabrics are marked at the loom with a colorless dye that fluoresces under ultraviolet light.

The marks are detected by scanning units placed one on each side of the tenter frame used in final finishing. The scanning units contain a source of ultraviolet light and the photoelectric cells.

When a mark passes under the

For more information, circle the A-number on Reader-Service post card.

ultraviolet light, it fluoresces and actuates the photoelectric cells. If both cells receive the signal simultaneously, the signals cancel out; but if there is a variation of ¼ in. or more, the lagging side is speeded up by means of the motor attached to the differential drive on one tenter chain. Should the opposite side lag, this same chain is slowed down until the weft is again square.

Fieldcrest Mills, Inc., licensed Cook-P&N Machine Co., Boston, Mass., to manufacture and sell the patented device. (A-148)

Carpet Spreader

A patent was assigned to Birch Brothers, Inc., Somerville, Mass., for a stainless-steel conical opener or spreader and guider for use on tufted carpeting being dyed in kettles. The device keeps the carpet free of wrinkles and central in the dye kettle. It can also be used ahead of squeeze rolls and continuous ranges. Widths: 3 to 20 ft. (A-149)

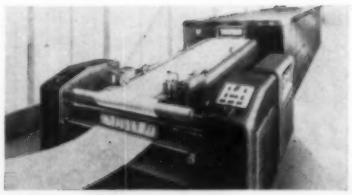
Centrifugal Mixer

A mixer that works on the principle of a centrifugal pump is available through Neumann & Weaver, Inc., Fair Lawn, N. J. When the impeller rotates, liquid is sucked from both top and bottom and driven out radially at different velocities toward the sides. Uses: mixing dyes, high-consistency starches, and chemicals. (A-150)

Laboratory Dryer

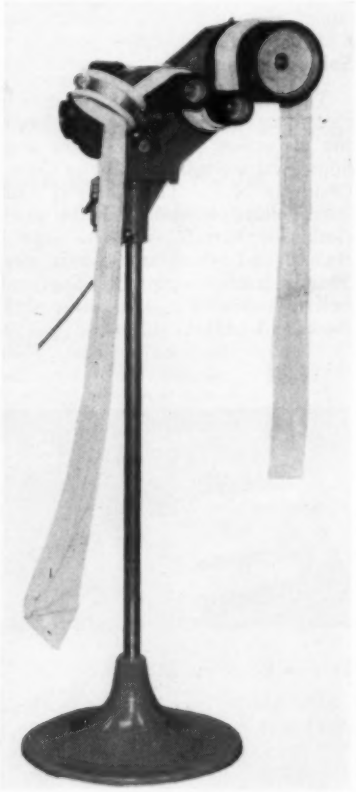
A portable, self-contained dryer is available on a rental, rental-purchase, or outright-purchase basis from C. G. Sargent's Sons Corp., Graniteville, Mass. This dryer is full size and is fully instrumented. It uses either steam-heated or electrically heated air. The heavy-duty ball-bearing casters lock securely when the dryer is positioned. After the steam and electrical connections have been made, the dryer is ready to use.

Designed primarily as a research laboratory dryer for pilot plants and laboratories, wherever drying processes exist, the dryer is particularly useful where quick adaptability to variables in materials or methods is required. (A-151)



Tenter Frame

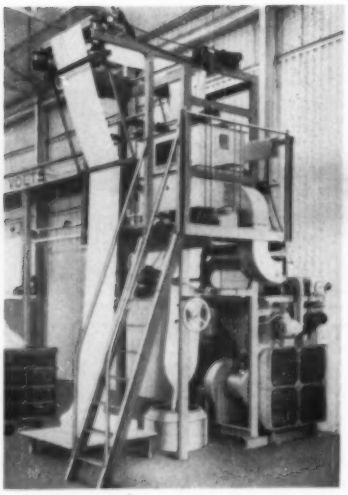
A tenter frame that combines efficient drying, heat-setting, and shrinkage-control features was announced by Trockentechnik, Stuttgart, Germany. Auxiliary electric heat is provided for quick warm-up or to build up temperatures to 500° F. for heat-setting operation. The tenter is sold and serviced by Alfred Hofmann & Co., West New York, N. J. (A-152)



Extractor Loader

The Utica Novelty & Mill Supply Co., Utica, N. Y., developed a combination extractor and loading or unload device that can be permanently mounted or supplied with a pedestal mount for mobility.

The head swings 360° and is mounted on ball bearings. It can be locked in any position. (A-153)

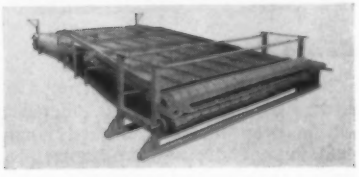


For Knit-Goods Drying

The Pegg Pasold Process machine, built by Samuel Pegg & Son Ltd., Leicester, England, dries knitted tubular fabric and sets it in a relaxed state. The fabric finishes at the width it comes from the knitting machine.

A rubber-disk roller assembly slightly overfeeds the fabric upwards to the machine. A hot-air stream is directed downward to untwist the fabric. The air stream shapes the overfed fabric into a bubble so that the fabric is carried to the drying chamber in a relaxed state. A fan in the hot-air chamber sends air through the fabric to help form the bubble.

The remainder of the hot air travels upward through the fabric and helps to lift the dry material to the conveyor belt. The dry fabric then passes to a truck or a folding platform. (A-154)



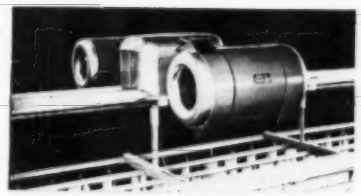
Offset Scray

A horizontal cloth storage scray that can be placed between machines that are not in line is available from Cook P&N Machine Co., Boston, Mass. The model shown is 110 ins. wide and can maintain continuous production between machines 40 ins. out of line. (A-155)

CONTINUED ON PAGE 222

For more information, circle the A-number on Reader-Service post card.

6 AUXILIARY EQUIPMENT



Overhead Cleaner

The Cross-Jet, a new traveling cleaner for spinning rooms, was announced by Bahnson Co., Winston-Salem, N. C. Self-propelled on a standard-weight creel-mounted track or on a single-rail suspended track, the cleaner's four revolving nozzles and four directional nozzles provide 360° cleaning of all overhead surfaces as well as the spinning frame. When used with open-type creels, the cleaner provides excellent cleaning of the underframe. (A-156)

Portable Mixer

Gabb Special Products Div., E. Horton & Son Co., Windsor Locks, Conn., announced a ¾-hp. laboratory model of its Shear-Flow mixer. (A-157)

Two Floor Machines

To eliminate hand fatigue from floor-machine operation, Huntington Laboratories, Inc., Huntington, Ind., produced as optional equipment a double safety switch built into the handles of Models 16 and 16B floor machines. By using the safety switch, the floor-machine operator can operate the machine with either hand. (A-158)

Automatic Embroidery Machine

An improved automatic shuttle embroidery machine was introduced by Italian Comerio Ercole Co., Busto Arsizio, Italy. Suitable for embroidering 10-yd. lengths of fabrics of all types, the machine carries 682 needles in two rows.

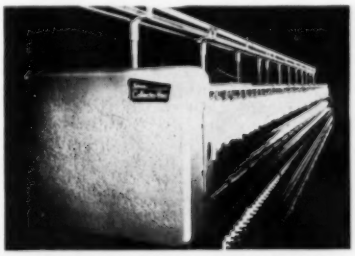
The machine frame is cast iron, but the fabric frame is of lightweight tubular steel mounted on brackets and rollers of light alloy. (A-159)

Machine Reclaims Bands

You can use your old banding material removed from bales of cotton in a band-splicing machine developed by A. J. Gerrard & Co., Melrose Park, Ill. The machine features a coil-fed fully automatic sealing unit that completes over 600 splices per hour. (A-160)

Slasher Pump

Rotary liquid pumps for slashers and dyeing equipment were announced by New York Air Brake Co., New York, N. Y. All working parts of the pumps are lubricated by the liquid being pumped. (A-161)



Vacuum Collector

A vacuum collector for lint and broken-ends recovery, the Collecto-Vac, was introduced by Bahnson Co., Winston-Salem, N. C.

Featuring simplified construction for easier maintenance, the system achieves a high suction efficiency with low power consumption. The fan and motor are both housed within the collection box in one model; another model is belt-driven and has the motor mounted externally. (A-162)

High-Strength Tape

A new adhesive paper tape introduced by Behr-Manning, Troy, N. Y., is particularly suited for holding applications in the textile industry. Recommended for such operations as splicing textile webs or tabbing the final lap on bolts of cloth, the No. 131 Behr-cat tape can also be used to hold protective coverings on equipment and to seal tubes and cartons. (A-163)

Liquid-Petroleum Sweeper

Elimination of obnoxious exhaust fumes is a special feature of a power sweeper developed by G. H. Tennant Co., Minneapolis, Minn. The unit, Model 75-LP, uses liquid-petroleum fuel.

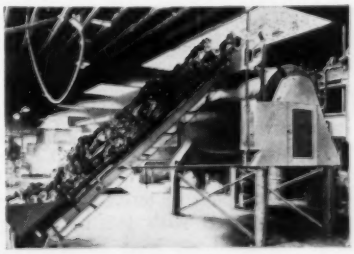
Besides eliminating exhaust fumes, the fuel (1) prolongs engine life, (2) reduces maintenance costs, (3) eliminates carbon deposits, (4) prevents crankcase dilution, and (5) results in somewhat smoother performance. Oil usually lasts three to five times as long as in gasoline engines. (A-164)

Numbered Tape

Consecutively numbered coding systems on pressure-sensitive tape perforated for easy application were developed by York Tape Printers, York, Pa. The tape can be adapted to almost any coding or identification problem, down to bobbin identification if desired. (A-165)

Label Embosser

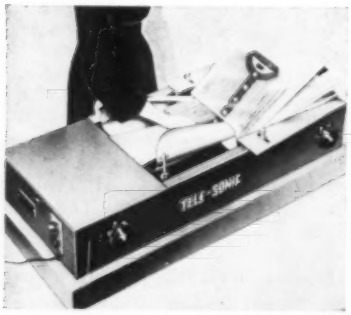
Trademarks, tradenames, and other designs can be embossed on heel pads, three-quarter sock linings, and similar articles with a new machine developed by Markem Machine Co., Keene, N. H. Equipped with conveyor feed and ejection for rapid production and operator safety, the Model 79A prints from 20 to 80 objects per minute. Air operated, it requires no adjustment for variations in stock thickness. (A-166)



Rag and Waste Oiler

The Proctor-Fairfield rag oiler for use on woolen and worsted rag wastes, knits, thread wastes, and wastes made by blended materials was announced

by Proctor & Schwartz, Inc., Philadelphia, Pa. The waste is fed into a large drum where steam and mechanical action force the oil through the mass. (A-167)



Packaging Machine

Air-regulated control is a new feature of the portable Tele-Sonic bagging machines, made by Telesonic Packaging Corp., New York, N. Y. The air-control regulator overcomes problems in having different size bags blown open at improper positions. (A-168)

Packaging Machine

The Speedwrapper was added to a line of packaging machines from Pack-Rite Machines, Milwaukee, Wis. The unit, inexpensive and self-contained, can be used for wrapping textile items in cellophane and heat-sealing the packages. (A-169)

Noise Barrier

Bemis Bro. Bag Co., Minneapolis, Minn., developed a new product called TransWall, a lightweight, retractable sound-barrier curtain designed for industrial applications. The curtain is made of a flame-resistant and sound-reflecting material known as Bemisorb, a specially treated and coated burlap. (A-170)

Packaging Coder

The Rainbow Trans-leaf coder, manufactured by Industrial Marking Equipment Co., Brooklyn, N. Y., automatically imprints cellophane and similar wrapping materials. The unit is synchronized with the packaging-machine speed and gives 20 to 40 sq. ins. of imprints for 1¢. Heat and pressure produce clear, sharp, permanent impressions in a wide range of colors on any material that will accept hot roll-leaf imprinting. (A-171)

Transfer Machine

Production on the Paramark Model transfer machine was started at Paramount Textile Machinery Co., Chicago, Ill. Features: the simultaneous application of two dry transfers to hose, lower labor costs, faster delivery of orders, simplified operation, and better-quality transfers.

One operator places goods on small conveyor belts, which carry the hose and transfer paper to the irons. One or two perfect impressions are applied. Auxiliary conveyor units carry the goods to other operators, who attach rider tickets, band, and box in an assembly-line operation. Output: 2,400 doz. pairs of hose in an 8-hr. shift. (A-172)

Indicating Controller

A small indicating controller for controlling variables is available from The Foxboro Co., Foxboro, Mass.

Textile applications include: (1) temperature (size-storage kettles, etc.); (2) pressure (production steam to J-boxes, etc.); (3) humidity (room humidity); and (4) liquid level (open storage tanks and kettles). (A-173)

Ultraviolet Lamp

A new Mineralight long-wave ultraviolet lamp with textile applications was announced by Ultra-Violet Products, Inc., South Pasadena, Calif. The lamps are useful for (1) observing, analyzing, and comparing materials, weaves, and dye lots; (2) inspecting for flaws and variations; (3) invisible marking during manufacture; and (4) locating oil spots on fabrics and tracing them to their origin. (A-174)

Twist Tester

An electric twist tester for all yarns but particularly suited to high-twist yarns, made by K. Zweigle, Reutlingen, Germany, is available from Stellite American Corp., New York, N. Y. (A-175)

Lab Cotton Blender

A laboratory blender for cotton samples, developed by the U. S. Dept. of Agriculture, is available from Custom Scientific Instruments, Inc., Arlington, N. J. Eight 10-gram samples can be made in an hour. (A-176)

Colorimeter

The Model C Color-Eye, a comparison colorimeter for production color control, is available from Instrument Development Laboratories, Inc., Needham Heights, Mass. The Color-Eye automatically accommodates itself to the illumination of the samples; and samples that reflect only 1% of light can be compared to a ¼% accuracy. (A-177)

Packaging Film

The successful completion of a field-testing program on a new 1-mil extruded-vinyl film for textile packaging application was announced by Goodyear Tire & Rubber Co., Akron, Ohio.

Called Vitafilm, the new product is completely transparent and resistant to sunlight. It has excellent printability and can be handled easily on most wrapping machines with only minor conversion. (A-178)

Power Exhauster for Roof

A power exhauster designed to fit on a building roof was announced by Proctor & Schwartz, Inc., Philadelphia, Pa. The motor fits right into the exhauster, and therefore there are no belts or pulleys. The units are made in four models from 1½ to 5 hp. (A-179)

Rotary Coder

A machine for imprinting identification on boxes, cartons, packages, or other surfaces was developed by Krengel Mfg. Co., New York, N. Y. A self-inking feature provides clean, sharp impressions. Rubber type, set in the unit by hand, is available in all point sizes and fonts in sets of letters or figures. (A-180)

Labels

Two new labels were developed by Normandie Co., New York, N. Y. The new products are a pressure-sensitive label that can be applied to virtually every type of surface and a vinyl label specially adapted for use on polyvinyl and polyethylene surfaces. The identifications are available in any size, shape, design, or color desired. (A-181)

For more information, circle the A-number on Reader-Service post card.

Doff Truck

A combination doffing unit was developed by Fisher Mfg. Co., Hartwell, Ga., with the tight and loose boxes that can easily be detached from each other. The doffed load can be moved on three wheels to the winder or spooler. The empty bobbin box then can be attached to another unit so that the operator can continue his doffing with a minimum of lost time. The box is designed to hold a complete doff instead of the usual one-half doff from large-package frames. **(A-182)**

Demineralizer

Penfield Mfg. Co., Meriden, Conn., added to its line of industrial demineralizing equipment a completely automatic Mono-Column Demineralizer designed for users of 200 gals. per hr. of high-purity water.

Raw water passes only once through the mono-column of mixed cation and anion resins and is delivered at the effluent stripped of all its impurities. Condition of effluent is checked electrically. **(A-183)**

Vacuum Floor Machine

A vacuum-equipped textile floor machine that propels itself was introduced by G. H. Tennant Co., Minneapolis, Minn. The machine cleans 21 ins. of floor in one trip and picks up dirt, dust, lint, and other soilage with a powerful vacuum action. The machine is 50% faster than earlier Tennant machines. **(A-184)**

Box-End Printer

By combining decorative and identifying markings on one printing operation, the Markem Model 25AC machine, available from Markem Machine Co., Keene, N. H., eliminates inventories of preprinted boxes. The machine will print tradename, trademark, or other design, plus size, width, style, or stock numbers on box ends at rates up to 75 per minute. **(A-185)**

Light Burners Safely

A control system for safely lighting and operating multiple-burner boilers was designed by Electronics Corp. of America, Boston, Mass. **(A-186)**

Hand Truck

A hand truck suitable for light-duty work was developed by Mercury Mfg. Co., Chicago, Ill. The truck is designed to be used in warehouses and throughout the plant. It has towline attachments for both overhead and underfloor conveyor lines. The truck has a capacity of 1,500 lbs. **(A-187)**

Lifting by Vacuum

A quick-lifting device operated on the vacuum principle was announced by International Staple & Machine Co., Herrin, Ill. Pads on the device grip any nonporous surface when vacuum action is applied. The device lifts steel plates, large castings, cement, paper cartons, drums, and other materials. The manufacturer will design units to meet your specifications for special jobs. Standard units are available. **(A-188)**

Bag Packager

The Deluxe Model 91R bag packager is available from Errich International Corp., New York, N. Y. Suited for products such as shirts, sweaters, scuffs, knit goods, carded items, etc., it is particularly adapted to speed loading into bags ranging from 8½ to 10½ ins. wide. **(A-189)**

Turret Winder

A three-shaft turret winder for continuous processing of textiles was announced by Hobbs Mfg. Co., Worcester, Mass. Designed to wind cloth under controlled tension in rolls of predetermined diameter, the winders are driven through an Alquist electric-clutching device. The three arbors move from winding, doffing, and reserve positions as the operation cycle is completed. **(A-190)**

Carpet Binder

A rotary feed for the Union Special carpet-binding machine was designed by Lawrence M. Stein Co., Chicago, Ill. A 9x12-ft. rug can be bound on four sides without a break in the tape or thread. **(A-191)**

Wire Stitcher

A portable wire stitcher that weighs 59 lbs. is available from Acme Steel Co., Chicago, Ill. The table-top stitcher closes bags of cellophane, single- or multiwall kraft paper, plastic, aluminum foil, and waxed paper; and it can be used to fasten labels to merchandise. **(A-192)**

Electric Counter

Durant Mfg. Co., Milwaukee, Wis., announced the addition of a tamperproof, tumbler-lock-reset electric counter. The counter is designed for panel mounting; it is equipped with a mounting plate, and the lock reset is at the right of the plate. **((A-193)**

Rotator

The Morse Mfg. Co., E. Syracuse, N. Y., added to its present line a drum rotator that has a total capacity of 1,000 lbs. of drum weight. Designed for agitating and mixing materials in the original container, the model has its own power unit and has idler wheels that can be adjusted to fit various sizes of drums. **(A-194)**

Straight-Edge Tuber

An automatic sensing device keeps cloth edges in line while they are being tubed on an improved machine built by Hermas Machine Co., Hawthorne, N. J. A pressure-roll unit smooths out wrinkles that might otherwise form during the tubing process. A variable-speed ratio of 7 to 1 is standard. The machine will handle rolls up to 36 ins. in diameter. **(A-195)**

Quick Belt Repairs

A self-vulcanizing rubber material for repairing conveyor belts was announced by Flexible Steel Lacing Co., Chicago, Ill. **(A-196)**

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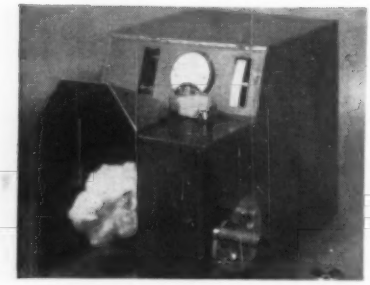
For more information, circle the A-number on Reader-Service post card.

Annual Review of EQUIPMENT and SUPPLIES

7 REGULATING, MEASURING, TESTING



To Test Fiber Fineness

The Speedar, made by Special Instruments Lab. Inc., Knoxville, Tenn., is a high-speed instrument to measure cotton-fiber fineness. The instrument uses a low-pressure differential and measures a new property called modulus. A 5- to 10-gram sample is tested, and the instrument is sensitive to fiber orientation. (A-197)

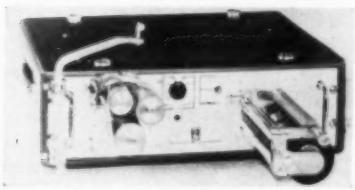
For Strength Tester

Two accessories for the Autodinamografo, an automatic strength and elongation tester made by Fabbriche Elettrotecniche Riunite, are available from Stellite American Corp., New York, N. Y.

The first accessory is a twisting device that inserts approximately 2½ tpi. into filament yarns. The tester can be used with or without this attachment. The second accessory is a fourth scale, which permits spun- or filament-yarn testing up to a breaking strength of 2,500 grams (about 5½ lbs.). (A-198)

Electronic Controller

An electronic watchdog, which makes it possible to test and control continuously an unlimited number of industrial processes from a single vantage point, was developed by Robertshaw-Fulton Controls Co., Philadelphia, Pa. Called an indicating scanner, the instrument monitors process variables involving level, temperature, thickness, mechanical movements, tolerances, weight, and pressure. (A-199)

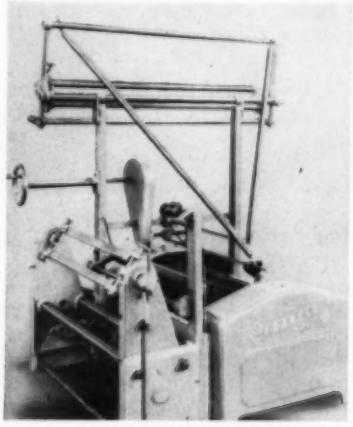


Material Drive and Rewind

A combination material drive and yarn rewind for running test lengths of yarn, sliver, or roving was announced by Brush Electronics Co., Cleveland, Ohio. (A-200)

Chart Drive

An improved Multi-Speed chart drive was developed by Insco Co., Groton, Mass., for Brown Electronik single- and multi-record strip-chart recorders, for both textile-laboratory and production use. (A-201)



Doubler

A streamlined and improved model of a cloth doubling machine was announced by Daniel Foxwell & Son Ltd., Cheadle, Cheshire, England. Automatic guiders insure accurate doubling, and adjustments are made by one handwheel when the cloth width changes. The draw rolls are rubber-covered and of exactly 20-in. dia. so that they can be used with a properly geared counter. The machine can be supplied without automatic guiders if desired but is fitted to receive guiders if they are needed later. (A-202)

Ultraviolet Lamp

An ultraviolet-ray lamp available from Charlotte Chemical Laboratories, Inc., Charlotte, N. C., shows up potential dye streaks in raw cotton or gray goods. (A-203)

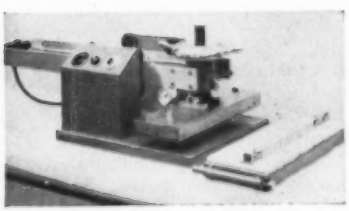
Testing Oven

A forced-draft oven called Isotemp was announced by Fisher Scientific Co., Pittsburgh 19, Pa. The oven, which is used for moisture assays and conditioning tests, reaches 105° C. in about 40 mins. and has a shelf space of 1,000 sq. ins. (A-204)

Photoelectric Control

Photoswitch's registration control operates continuously over both high- and low-speed ranges without special attachments. Designed for maintaining precise accuracy in automatic machine operations on textiles or other sheet material, this control responds instantly to the appearance of a mark printed on material moving past at speeds from 15 to more than 500 ft. per min.

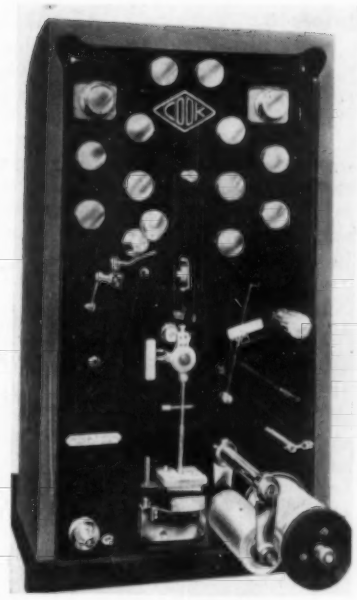
The scanner, supplied with the control, consists of a light source, lens system, phototube, and amplifier tube, all mounted in a single rugged housing. The manufacturer is Electronics Corp. of America, Cambridge, Mass. (A-205)



Pressing Tester

A pressing tester that measures the dimensional change in the shrinkage of textiles was announced by Karl Frank, GmbH., Weinheim-Birkenau, Germany. After an interval of at least 1 hr., the shrinkage of the specimen can be read directly from the percentage scale. (A-206)

For more information, circle the A-number on Reader-Service post card.



Continuous Yarn Tester

A constant-tension device that will detect the frequency and distribution of weak places in long runs of yarn was developed by Cook & Co., Manchester, England. (A-207)

Cloth Measurer

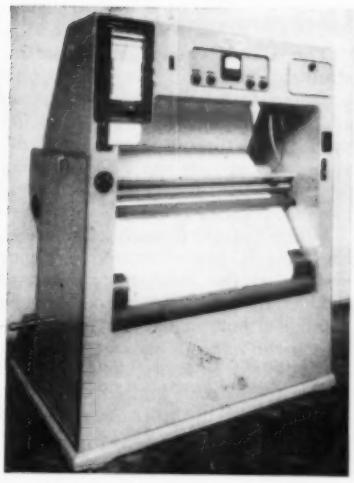
The Albion portable cloth-measuring machine was introduced by B. & F. Carter & Co. Ltd., Bolton, England. The machine, which fits on a table or bench, measures in yards and meters. The counter is geared to give recordings up to 99⅞ yds. (A-208)

Yarn-Examination Winder

The Vitno-Winder, developed by G. Dikkers & Co., N. V., The Netherlands, and sold in the United States through Stellite American Corp., New York, N. Y., provides accurately spaced, secure windings of yarn in a few minutes. Shadowgraphs of the yarn can be taken by inserting photographic paper in a holder that rests in the unit. (A-209)

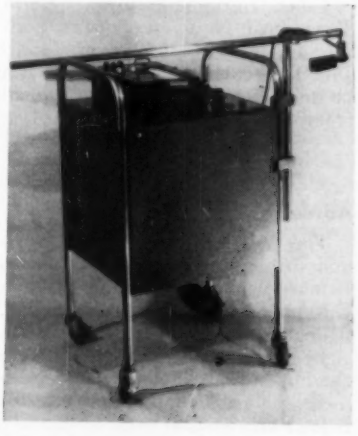
Abrasion Tester

A smaller CSI surface abrader for abrasion and pilling tests was developed by Custom Scientific Instruments, Inc., Arlington, N. J. (A-210)



Lap Tester

The Ingolstadt capacitance-type lap tester, Type WPG 2, is available from Stellite American Corp., New York, N. Y. Laps up to 45 ins. wide can be tested. The measuring condenser consists of a bar-shape measuring electrode and a rotating counter electrode. Fluctuations in lap weight are summed for the entire width of the lap. (A-211)



Recording Tensiometer

A high-speed recording tensiometer, for the measurement and regulation of yarn tension, was produced by Custom Scientific Instruments, Inc., Arlington, N. J. The instrument is also applicable to the study of surfaces in contact with a running yarn.

The instrument can be used under normal plant conditions. Heavy machine and plant vibrations have no effect on the tensiometer; the record produced is a true record of tension variation. (A-212)

Industrial Pycnometer

The plastic pycnometer machined from Plexiglas permits measurement of the specific gravity of materials that would corrode metal instruments. The instrument is made by Gardiner Laboratory, Bethesda, Md. (A-213)

Pilling, Abrasion Tester

A combination pilling and abrasion tester was developed by Fabric Development Tests, Brooklyn, N. Y. The tester is intended for use in fabric development, mill and finishing-plant control, and acceptance testing. (A-214)

Yarn-Laboratory Equipment

Scott Testers (Southern), Inc., Spartanburg, S. C., is manufacturing and selling three reels and a yarn-examining machine formerly made and sold by Standard Mill Supply Co., Pawtucket, R. I.

The hand-operated 36-in. roving reel is equipped with a yardage counter that is visible at all times. An adjustable creel will take various sizes of bobbins.

The hand-operated yarn-examining machine has five speeds that control yarn spacing and is equipped with an adjustable tension stand and supply attachment for bobbins or cones.

The umbrella skein reel holds skeins up to 72 ins. for winding and examining.

The hand-operated 36- or 54-in. yarn reel is equipped with a direct-reading three-light counter. Traverse is adjustable. The device produces four skeins in one operation. (A-215)

Lap Tester

The lap tester developed by Precision Gear & Machine Co., Charlotte, N. C., indicates variation yard for yard throughout the length of lap taken from a picker; and an electrically controlled gear-timing mechanism cuts off a predetermined length of lap. (A-216)

Mechanical Stroboscope

A mechanical stroboscope with an intense white light of 225,000 candlepower was developed by Guider Roll & Service Co., Daytona Beach, Fla.

The stroboscope is simply designed: there is a motor, a belt, and a control of the light speed to synchronize the

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light with the pattern. Practically any object can be strobed: objects that rotate or move back and forth, such as a shuttle; that travel continuously in one direction, such as fabric; and that have a repeated pattern or design. Fast-moving cloth with small designs is relatively easy to strobe: cloth moving at 200 yds. a min. appears to be standing still. (A-217)

Nep-Testing Machine

The nep machine developed by the U. S. Dept. of Agriculture was offered for sale by Custom Scientific Instruments, Inc., Kearney, N. J. The machine processes a three-gram sample of blended cotton into a continuous web 4 ins. wide and approximately equivalent in appearance and weight to card web produced for a 40-grain sliver. (A-218)

Cone-and-Plate Viscometer

Ferranti Electric, Inc., New York, N. Y., announced the Ferranti-Shirley viscometer, an instrument designed to measure the flow properties of most types of fluids. Based on the cone-and-plate principle, the viscometer is useful for the most advanced investigations and for large numbers of routine viscosity measurements. (A-219)

Cotton Sampler

Skil Corp., Chicago, Ill., is now marketing an improved cotton sampler, Model 144, that is said to meet all safety requirements. Recommended for speedy sampling of baled cotton, the new device has a built-in sharpening attachment for its special knife blade. (A-220)

Air-Permeability Tester

The air permeability tester developed by Karl Frank, GmbH., Weinheim-Birkenau, Germany, allows the results to be read immediately after the material has been inserted. The instrument has a vertical glass tube with an inner diameter that increases slightly toward the top. As air flows through the tube, a float with a conical bottom is forced upward and indicates the amount of air flow. (A-221)

Speed-Measuring Machine

The Speedotex, a dual-purpose instrument based on the stroboscopic principle for measuring yarn speeds and the speed of revolution of moving parts of textile machinery, was developed jointly by the British Rayon Research Assn. and Dukes & Briggs Engineering Co. Ltd.

When the unit measures yarn speed, the yarn is passed around a pulley system on the measuring head and light from a flashing lamp is passed through a hole in one of the pulleys. When the machine measures rotation speeds, light from the flashing lamp is directed to the spindle, gear wheel, or shaft; and the instrument is used as a stroboscope. (A-222)

Return Drive for Tester

To facilitate breaking-strength tests, Scott Testers, Inc., Providence, R. I., added an instant-return feature to its incline-plane serigraph. The drive permits instant return to starting position from any point of the test cycle. (A-223)

Abrasion Tester

Taber Instrument Corp., North Tonawanda, N. Y., developed a portable abrasion-resistance tester, Model 140PT. Actual wear conditions can be simulated for upholstery and all types of clothing fabrics. (A-224)

Abrasion Tester

The CST-A abrader, which determines the resistance to abrasion in terms of volume loss, is available from Custom Scientific Instruments, Inc., Arlington, N. J. Capacity: six to eight test specimens, depending on the number of calibration zinc specimens. The size of the sample tested is $\frac{7}{8}$x2$\frac{1}{4}$ ins. (A-225)

Instron Tester

A table model of the Instron universal testing instrument has been announced by Instron Engineering Corp., Quincy, Mass. This instrument records stress-strain curves under tension or compression.

Full-scale-load ranges from two grams to 200 lbs. are available. The high-speed recorder is equipped with a choice of synchronous chart speeds. (A-226)

Inspecting Machine

A heavy-duty inspecting machine that will take 36-in.-dia. rolls was offered by Hermas Machine Co., Hawthorne, N. J. The frame is made of 5-in. channel steel with welded construction. A variable-speed drive works through an electric clutch. Electric brakes are adjustable to maintain desired tension on the let-off arbor. (A-227)

Tachometer Take-Off Head

Metron Instrument Co., Denver, Colo., developed a take-off head for stationary tachometers. The unit is adapted for continuous-duty industrial use where ruggedness counts. The take-off heads cover speed ranges between 100 and 5,000 rpm. for full-scale readings on any stationary Metron tachometer indicator. (A-228)

Portable Viscometer

A portable coaxial-cylinder viscometer was announced by Ferranti Electric, Inc., New York, N. Y. The instrument consists of a rotating outer cylinder with a second cylinder located coaxially within it. The inner cylinder is free to move against a calibrated spring and moves a pointer over a calibrated scale. (A-229)

Conditioning Oven

The Freas conditioning oven for making moisture tests on textiles has been redesigned by Precision Scientific Co., Chicago, Ill. New balances permit moisture determinations from 30 to 0.1%. An inner door of Herculite plate glass permits observation during testing. (A-230)

Seam-Slippage Tester

A tester for the control of seam slippage is available from Stellite American Corp., New York, N. Y. Thread slippage is measured to 0.01 mm. Two tests are made: the seam is tested after the fabric is first tested for natural elongation. Slippage is given as a difference between the two elongations. Price: $580 plus duty and transportation from Italy. (A-231)

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For more information, circle the A-number on Reader-Service post card.

8 POWER GENERATION AND TRANSMISSION

Short Electric Motors

Shorter motors in round-frame flange-mounted designs were announced by Century Electric Co., St. Louis, Mo. The motors replace the old design in the 1- to 15-hp. range. (A-232)

High-Voltage Starters

High-voltage starters combining (1) 400-amp. current-limiting fuses, (2) completely new air-break contactors, and (3) all-sheet-steel enclosures were announced by Westinghouse Electric Corp., Pittsburgh, Pa. (A-233)

Transformer for Looms

A 12-v. transformer especially designed for warp stop motions on looms was developed by Hindle Transformer Co., Flemington, N. J. (A-234)

Small Gear Motors

A line of small gear motors was announced by Doerr Electric Corp., Cedarburg, Wis. The motor is made in the NEMA-42 frame size and is offered in 1/20- and 1/12-hp. ratings. Eight standard ratios in the range from 5 to 1 to 60 to 1 are manufactured. (A-235)

Electric Motors

Rerated totally enclosed fan-cooled motors in the 1- to 5-hp. series were announced by Century Electric Co., St. Louis, Mo. One of the motors, TEFC, is recommended for use in dirty, dusty, and fume- and mist-laden atmospheres that could damage ordinary open motors. (A-236)

Circuit Breaker

A circuit-breaker load center with 20 circuits arranged in a split-bus interior design was announced by Trumbul Components Dept., General Electric Co., Plainville, Conn.

To simplify the electrician's installation job, the load center has a snap-action interior design that allows the interior to be snapped in or out without screws or tools. (A-237)

All-Purpose Welder

A universal arc welder with a.c. and optional d.c. welding currents provides a welding arc for all-purpose manual welding jobs. A soft or a forceful arc can be selected. Made by Lincoln Electric Co., Cleveland, Ohio, the Idealarc machine is available in 300-, 400-, and 500-amp. a.c. models with d.c. capacities in 200, 300, 375, and 450 amps. (A-238)

Drying-Can Drive

A double-face V-belt drive with pneumatic tension control was developed by The Textile Shops, Spartanburg, S. C., for driving cylinders. The drive can be built for any steam pressure required. Belt tension can be automatically or manually controlled. Speeds up to 300 yds. per min. are possible. (A-239)

Lift Truck

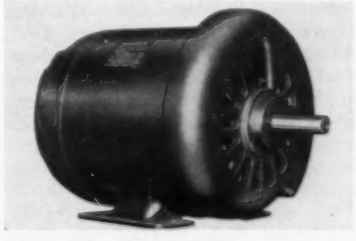
Improved hydraulic lift trucks for handling loom beams, warp beams, rolls of cloth, and coated fabrics were developed by Standard Mill Supply Co., Providence, R. I. The trucks are constructed of steel and are easily handled in narrow aisles and around posts. (A-240)

Gear Motors

Gear motors in the form of self-contained drives, each consisting of a high-speed motor and speed-reducing unit, were offered by Westinghouse Electric Corp., Gearing Div., Pittsburgh, Pa. Specific uses of the gear motors are on calenders, tenter frames, cards, and slashers. The gear motors are designed to provide economical transmission in high-speed motors with the added feature of reducing the motor speed to the requirements of the driven machine. (A-241)

Glass Heat Exchanger

A 50-sq.-ft. capacity heat exchanger made of Pyrex glass was introduced by Corning Glass Works, Corning, N. Y. Water-to-water heat transmission is 195 Btu. per hr. per sq. ft. per Fahrenheit degree. Operating temperatures up to 375° F. on the shell side and 200° F. on the tube side are possible at working pressures up to 20 lbs. per sq. in. (A-242)



Motor for Dirty Places

A ¼-hp. totally enclosed fan-cooled motor was added to the line of motors manufactured by Century Electric Co., St. Louis, Mo. Designed for single-phase and polyphase operation, the motor is recommended for dirty, dusty, and fume- and mist-laden atmospheres. (A-243)

For more information, circle the A-number on Reader-Service post card.

1 DYES

National Alizarol Verdon S was announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Wool is dyed bluish-green shades by all chroming methods. Particularly suitable for raw stock and slub dyeing. (B-1)

Chromoxane Brilliant Red BL was marketed by General Dyestuff Corp., New York, N. Y., for producing brilliant red shades on wool in the piece, or for top, skein, or stock, that are fast to light and wet processing. (B-2)

Metomega Chrome Orange PML and **Omega Chrome Olive GL PAD** were offered by Sandoz Chemical Works, Inc., New York, N. Y. Fastness characteristics to light and most processing are excellent. (B-3)

Pad Colors for nylon and acetate were developed by Pad-Dye Corp., Paterson, N. J. Applicable by direct pad or pad-steam methods, the colors are water soluble. (B-4)

National Niagara Copper Black Brown was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., as a self-color or for aftertreating with copper compounds, which produces shades of generally good fastness. (B-5)

Lumicrease Yellow EFUL and **Lumicrease Orange 3LB** were marketed by Sandoz Chemical Works, Inc., New York, N. Y., as dyes particularly suited to automobile and decorator fabrics because of excellent lightfastness. (B-6)

National Solantine Green BL was offered by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., to produce moderately bright shades of green on cotton, rayon, and leather. Fastness characteristics make the color suitable for bathing suits, carpets, upholstery, and materials to be rubberized. (B-7)

Eastone Pink 3B-GLF was marketed by Eastman Chemical Products, Inc., Kingsport, Tenn., to produce bright bluish-pink shades on acetate fabrics. The color is fast to gas-fading, light, washing, and diazotization. (B-8)

Eastofix colors were marketed by Eastman Chemical Products Inc., Kingsport, Tenn. The dyes are after-treated to produce shades of improved fastness to gas, light, and washing. The dyes are compatible with direct colors. (B-9)

Disperse dyes designed especially for dyeing Arnel were announced by Interchemical Corp., Hawthorne, N. J. Interchem Triacetate GSF Yellow, Scarlet, Red, Blue, and Green-blue produce shades that are fast to washing, light, and sublimation. (B-10)

Azomatic Solutions were marketed by Augusta Chemical Co., Augusta, Ga., for improved diazotization of naphthols. (B-11)

National Black Salt K was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., to produce black shades on cotton and viscose. Can be applied by usual methods to give shades of excellent general fastness. (B-12)

National Blue 3 BVS Salt was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. The product can be applied by all methods to cellulose fibers to produce greenish to reddish blues with various naphthols. (B-13)

Accosperse Dispersions, available in red, yellow, scarlet, blue, and green shades, were introduced by Pigments Div., American Cyanamid Co., New York, N. Y. Supplied in highly flocculated dispersions, the pigments are claimed to resist flushing, coagulation, or settling. (B-14)

Pad Dye Process 18 was introduced by Aula Chemicals, Inc., Elizabeth, N. J., for producing solid shades on most fibers by padding on water-dilutable pigment-resin dispersions. Good fastness charactertistics and low crocking are claimed. (B-15)

Pigment Green B15-4010 is an alkali-resistant pigment suitable for masonry or printing inks. Introduced by Pigments Div., American Cyanamid Co., New York, N. Y. (B-16)

Aulabrite 3000 series was marketed by Aula Chemicals, Inc., Elizabeth, N. J. The water-dilutable pigment colors produce brilliant shades that resist laundering and dry cleaning. (B-17)

National Sulfur Brown CGCF produces moderately bright shades of reddish tan, with generally good fastness to processing, light, and washing. Can be used on fabrics to be rubberized or resin-treated. Introduced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. (B-18)

National Sulfur Direct Blue N was announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Producing moderately bright blue and navy shades on cotton and rayon, the dye may be used in iron machines without dulling. Fastness qualities are generally excellent. (B-19)

Ahcovat Soluble Green IB was offered by Arnold, Hoffman & Co., Providence, R. I., as particularly suitable for printing. Excellent stability and good working properties are claimed. (B-20)

Calcosol Golden Orange 3G Paste was marketed by American Cyanamid Co., Dyestuff Dept., Bound Brook, N. J. Suitable for cotton-rayon blends, the dye is slow-exhausting and level-dyeing. The color dyes wool readily and is little affected by resin-finishing treatments. (B-21)

National Carbanthrene Black-Brown VA Paste was introduced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., to produce blackish-brown shades on cotton and rayon fabrics. Suitable for pressure-dyeing or for pigment-pad methods, the dye produces shades of excellent all-around fastness. (B-22)

Denivat was announced by Southern Dyestuff Co., Charlotte, N. C., for production of deep, well-penetrated shades of blue on denims. (B-23)

Calcosol Yellow PG Double Paste was offered by American Cyanamid Co., Dyestuff Dept., Bound Brook, N. J. Applicable by all methods, the dye gives warm yellow shades of excellent all-around fastness. (B-24)

National Carbanthrene Printing Black BBD Double Paste was offered by National Aniline Div. Allied Chemical & Dye Corp., New York, N. Y., for producing jet-black shades on cotton and rayon with very good fastness to processing, light, and commercial laundering. (B-25)

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2 FINISHES

Chemigum Latex 236 and **246** were marketed by Chemical Div., Goodyear Tire & Rubber Co., Akron, Ohio. The products are small-particle latices of high mechanical stability. Chemigum Latex 236 is especially suited to applications requiring high resistance to oils. **(B-26)**

Solvitose HDF was marketed by Morningstar, Nicol, Inc., New York, N. Y. The product is a starch ether useful in building up the hand of resin-finished goods. **(B-27)**

Nuvel was introduced by Zimmerman Associates, Guilford College, N. C. The product is amphoteric and produces soft, full hands on fabrics when added to scouring, dyeing, or finishing baths. **(B-28)**

Wicaset 462 was announced by Wica Chemicals, Inc., Charlotte, N. C. A nonionic polyvinyl-acetate emulsion, the product is compatible with most finishing materials and is recommended for stiffening, bonding, and coating. **(B-29)**

Mollisan is a nonionic softener designed to soften resin finishes and provide an antistatic effect. Introduced by Onyx Oil & Chemical Co., Jersey City, N. J., the product resists yellowing and improves tear strength and abrasion resistance. **(B-30)**

Cyana is a microscopic material marketed by American Cyanamid Co., Textile Resins Dept., New York, N. Y., as a soil-resistant finish for carpetings. It is not affected by backing materials and does not dust. **(B-31)**

Prym N and **Prym CR** were marketed by Sun Chemical Corp., Warwick Chemical Co. Div., Wood River Junction, R. I., as additive products to basic Avcoset formulas to modify hand and improve crease resistance. **(B-32)**

Ampitol VAC was offered by Dexter Chemical Corp., New York, N. Y., as a softener for Avcoset finishes. The product has antistatic properties and is nonyellowing. **(B-33)**

Stabilite was announced by Merix Chemical Co., Chicago, Ill., as an antistatic material to be applied to yarns and fabrics. **(B-34)**

Ludox, a colloidal-silica dispersion, was introduced as a soil-resistant finish for carpets. Mohawk Carpet Mills, Inc., is the patentee of the process; license for use may be obtained through E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. **(B-35)**

Melltone RH was marketed by Crown Chemical Co., Providence, R. I., as a lubricating medium for resin-finish formulas. The product is low-foaming, is compatible with most other finishing materials, and will not affect lightfastness. **(B-36)**

Sub-Du is an antimicrobial compound introduced by Wilcris Chemical Co., New York, N. Y. The product is substantive and nontoxic and prevents odor formation and mildew. **(B-37)**

Resin Modifiers were offered by Aquex Development Corp., Whippany, N. J. **Polyethylene emulsions,** the products are added to thermosetting-resin finishes to improve tear strength and abrasion resistance of resin-finished fabrics. **(B-38)**

R-300 was introduced as a nylon-hosiery finish by Jersey State Chemical Co., Haledon, N. J. **(B-39)**

Harto-Resin PC was offered by Hart Products Corp., New York, N. Y. A polyvinyl-acetate emulsion, the product produces stiff, clear finishes. **(B-40)**

Styrene monomer in rubber grade was made available by Koppers Co., Pittsburgh, Pa. The product contains 99% styrene and not more than 0.02% sulfur. **(B-41)**

Catalyst AC-6 was offered by Monsanto Chemical Co., Springfield, Mass., for use with melamine-type resins. **(B-42)**

Sylmer was introduced by Dow-Corning Corp., Midland, Mich. The silicone-type water repellent is applicable to most fibers and also produces flame-resistant finishes. **(B-43)**

Dextrol Research Softeners were introduced by Dexter Chemical Corp., New York, N. Y. Four types, compatible with most resins, produce a variety of hands on cotton and rayon. **(B-44)**

Arko Finish CS was announced by Arkansas Co., Newark, N. J., as a cationic finish for Orlon knitted fabrics. **(B-45)**

Antistat #93 is a durable antistatic finish for synthetics that was marketed by Apex Chemical Co., New York, N. Y. **(B-46)**

Bondapex #1020 was announced by Apex Chemical Co., New York, N. Y. The product improves hand of resin finishes. **(B-47)**

Nopco 1572-R was offered by Nopco Chemical Co., Harrison, N. J. A polyvinyl-acetate emulsion, it is useful in finishing formulas. **(B-48)**

Duradul was marketed as a nonpowdering delustrant by Apex Chemical Co., New York, N. Y. Grades for black and white fabrics are available. **(B-49)**

U-2001 Ubatol was announced by Union Bay State Chemical Co., Cambridge, Mass. A modified polystyrene emulsion, the product is useful for nonfraying finishes and antisoil finishes. **(B-50)**

Emboset R was introduced by Metro-Atlantic, Inc., Centredale, R. I., to produce durable embossed and glazed effects on cotton and shrinkage-resistant finishes on cotton. **(B-51)**

Ranedare R, marketed by Metro-Atlantic, Inc., Centredale, R. I., is a durable water repellent compatible with thermosetting resins. Applicable to most fibers; water-repellent effects withstand laundering and dry cleaning. **(B-52)**

Vinrez 101 is a polyvinyl-acetate emulsion offered by Stein, Hall & Co., New York, N. Y., as a binder for rug underlays, wool felt pads. **Vinrez 202** is a polyvinyl-acetate emulsion used to give body to fabrics. **(B-53)**

Nopcotex was marketed by Nopco Chemical Co., Harrison, N. J., as a finish for napping wool blankets. **(B-54)**

Acrysol G-110 was introduced by Rohm & Haas Co., Resinous Products Div., Philadelphia, Pa. The product is used to thicken various types of latices for textile and other purposes. **(B-55)**

Cravenette Super Silicone Water Repellent was offered by Cravenette

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Co., U. S. A., Hoboken, N. J. The product cures at 200 to 240° F. to produce finishes resistant to nonoily stains. (B-56)

Ranedare C gives durable water-repellent finishes on cotton. **Ranedare S** is suitable for water-repellent finishes on synthetics or cotton. Introduced by Metro-Atlantic Inc., Centredale, R. I. (B-57)

Emkasorb was offered by Emkay Chemical Co., Elizabeth, N. J., as an absorbent finish for nylon stretch hose. (B-58)

Dexene 77 was marketed by Dexter Chemical Corp., New York, N. Y., for cotton softening. The anionic product is nonyellowing and does not affect lightfastness of dyes. (B-59)

Dextrol GM-94 was introduced by Dexter Chemical Corp., New York, N. Y., especially for use with water-repellent finishes. It has no wetting or rewetting properties. (B-60)

Emboset Loclor was introduced by Metro-Atlantic Inc., Centredale, R. I., as a low-chlorine-retentive resin for finishing cottons and rayons. (B-61)

Emboset NR was offered as a durable crease-resistant finish for synthetics by Metro-Atlantic Inc., Centredale, R. I. (B-62)

Zinc and **stannous catalysts** for use with silicone resins were offered by Advance Solvents & Chemical Corp., New York, N. Y. (B-63)

Syncap ON was marketed by Crown Chemical Corp., Providence, R. I., to develop stiff finishes on nylon taffetas. Flame resistance is produced on marquisettes and sheers with the product. (B-64)

A-C Polyethylene was introduced by Semet-Solvay Petrochemical Div., Allied Chemical & Dye Corp., New York, N. Y. The product forms emulsions useful in coating textiles. (B-65)

Epoxy-Resin Emulsion was offered by Chemical Products Corp., W. Paterson, N. J., to produce self-finishes, or for combination with polyamide or amine-aldehyde resins to produce insoluble resins. (B-66)

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3 AUXILIARIES

Anti-Foam 60 was marketed by Silicone Products Dept., General Electric Co., Waterford, N. J., as an additive to dyeing, finishing, or sizing baths to cut down objectionable foam. (B-67)

Hycryl A-1000 was offered by Union Bay State Chemical Co., Inc., Cambridge, Mass. A modified ammonium polyacrylate, the product is useful in stabilizing dispersions of pigments and latices in printing and finishing formulas. (B-68)

Lavepon WS-1 was announced by Rohm & Haas Co., Philadelphia, Pa., for wool scouring in neutral baths. No alkali need be added to get results. (B-69)

Emkalar DA was introduced by Emkay Chemical Co., Elizabeth, N. J., as a carrier for Dacron dyeing. All shades, including black, can be produced on conventional equipment with the carrier. (B-70)

Morapon AC was introduced by Moretex Chemical Products, Inc., Spartanburg, S. C. The product was designed to increase crockfastness on napthol, sulfur, and azoic dyeing when used in after-scouring. (B-71)

Cerfak 445 was announced by E. F. Houghton & Co., Philadelphia, Pa., as an adjunct to scouring and bleaching operations. (B-72)

Carobene D and **Carobene G** were announced by Buschman Products, Inc., New York, N. Y. Modified locust-bean gum products varying principally in the viscosity of solutions prepared from them, the gums are excellent print-paste thickeners. (B-73)

Burtonite V-7-E is a guar-seed derivative marketed by Burtonite Co., Nutley, N. J., as a print-paste thickener that is not affected by organic acids. (B-74)

Rhoplex X-52 is an acrylic emulsion announced by Rohm & Haas Co., Resinous Products Div., Philadelphia, Pa. The resin forms hard films that are resistant to water or solvents; it may be used alone, with other acrylics, or with fillers. (B-75)

Sipex 7W is a modified alcohol sulfate of superior emulsifying power and good foaming properties. Marketed by American Alcolac Corp., Baltimore, Md., the product is recommended for scouring dyed or printed fabric. (B-76)

Monamid 150 Series are light-colored concentrated products offered by Mona Industries, Inc., Paterson, N. J., for wetting, detergent, emulsifying, and dispersing operations. (B-77)

Protovac PL-421 was announced by Chemical Div., The Borden Co., New York, N. Y. The casein product can be mixed directly with fillers and pigments or can be used as an adhesive as supplied. (B-78)

Coning Lubricant 353 was introduced by Richmond Oil, Soap & Chemical Co., Philadelphia 25, Pa. The product is a self-emulsifiable oil for winding, weaving, and knitting operations. (B-79)

Tanalon was announced by Tanatex Corp., Kearney, N. J. The name is applied to a series of carriers to be used in dyeing Dacron and Dacron-wool blends. They do not stain the wool and are easily removed after dyeing. (B-80)

Antifoam AF Emulsion was marketed by Dow Corning Corp., Midland, Mich., for controlling foam in wet-processing operations. Very small amounts are necessary. (B-81)

Supronyx was marketed by Onyx Oil & Chemical Co., Jersey City, N. J. The product is a modified anionic alkyl sulfate designed for scouring and dyeing operations for all fibers. (B-82)

Carbowax 20M, polyethylene glycol in pellet form, was announced by Union Carbide & Carbon Co., New York, N. Y. The water-soluble product is useful in sizing formulas and pigment dispersions where binding, suspending, and lubricating qualities are required. (B-83)

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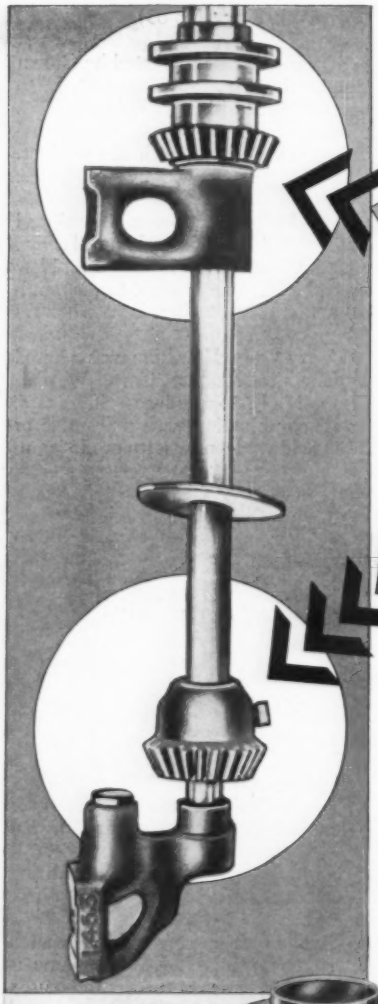

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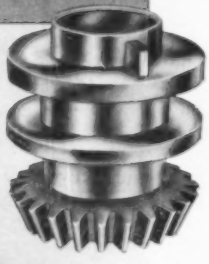
These high-speed Bobbin & Spindle Gears are vitally important to the quality-conscious mill. If they do not mesh properly, uniform bobbins and even-running work are impossible. Your best replacement source is Saco-Lowell, where every gear is manufactured to the original specifications. The tough outer surface of the gears assures accurate, trouble-free operation—their quality is guaranteed by Saco-Lowell and unequalled at any price.

Substitutes **actually cost more** than genuine Saco-Lowell Bobbin & Spindle Gears. Cost-conscious mills must recognize the **high** replacement factor of these "foundry" gears. Their inferior manufacture, under normal high-speed operation, results in increased wear to these gears and other component parts.



Remember, the **initial price** for Saco-Lowell gears is competitive with any other make — in the long run they cost far less.

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POINTERS for SUPERVISORS

So You're Gonna Make a Change

- **A chronic headache for supervisors is that their companies have to keep making changes to stay competitive but their employees usually don't want changes to be made.**

- **But there are ways for supervisors to ease the conflict between what management says must be done and what workers are willing to accept. These tips can help you smooth over the rough spots and get changes introduced and accepted.**

By M. A. CROSS, Director of Industrial Relations, Dan River Mills, Inc.

If there is anything unchanging about industry, it is the insistence on change. In the forward march of industry, there is no place for the company that will not change, that will not modify its products to meet changing consumer tastes, that will not modernize its plants by investing in new and improved equipment, or that will not change its policies when circumstances require.

But change brings problems, particularly in the business of employee relations. Most people resist change to some degree, whether it's a change in their work place, their work assignment, their method of doing the job, the way they are paid, or for that matter any departure from the accustomed practice.

As a supervisor, you have the responsibility of putting changes into effect from time to time. You have to do the selling job with your people. What, then, are some guideposts you can follow in introducing and carrying out a change a little more smoothly?

Let's assume that the contemplated change is the installation of new machinery whose operation will require fewer employees than are now assigned to the department affected by the installation. Here are some points you might consider in handling what is clearly a major revision that will require adjustment by a number of people.

1. Anticipate the problems

Before you make the change, try to figure out all the problems that may arise to disturb employees, and then see what solutions you can develop to minimize those problems.

For example, how many people will be laid off? Which particular employees will be laid off? Can any of these employees be transferred to other jobs in the department or in other departments in the mill? If they are not now qualified for other jobs, could they qualify with some special training?

Then there are questions that involve the employees who will remain to operate the new machinery. Will they need any training on their new job duties? If so, how will they be paid during the training period? What will the rate setup be once the new machinery is in operation? What will happen to employees who remain to operate the new machinery but are unable to meet performance standards by the end of any training period established?

By anticipating situations like these, you can plan more intelligently what steps you need to take in making your changes when the time comes. You will be prepared to answer the questions of individual employees who are naturally vitally concerned as to what will happen to them and perhaps be able to calm unwarranted fears based on rumor and guesswork.

2. Choose the best timing

On this point your discretion is often going to be severely limited, and necessarily so, by the company's plans. If new machinery has been purchased at considerable expense in order to bring about a more-efficient operation, it is not going to be stored in a warehouse for months waiting for the right psychological moment for installation.

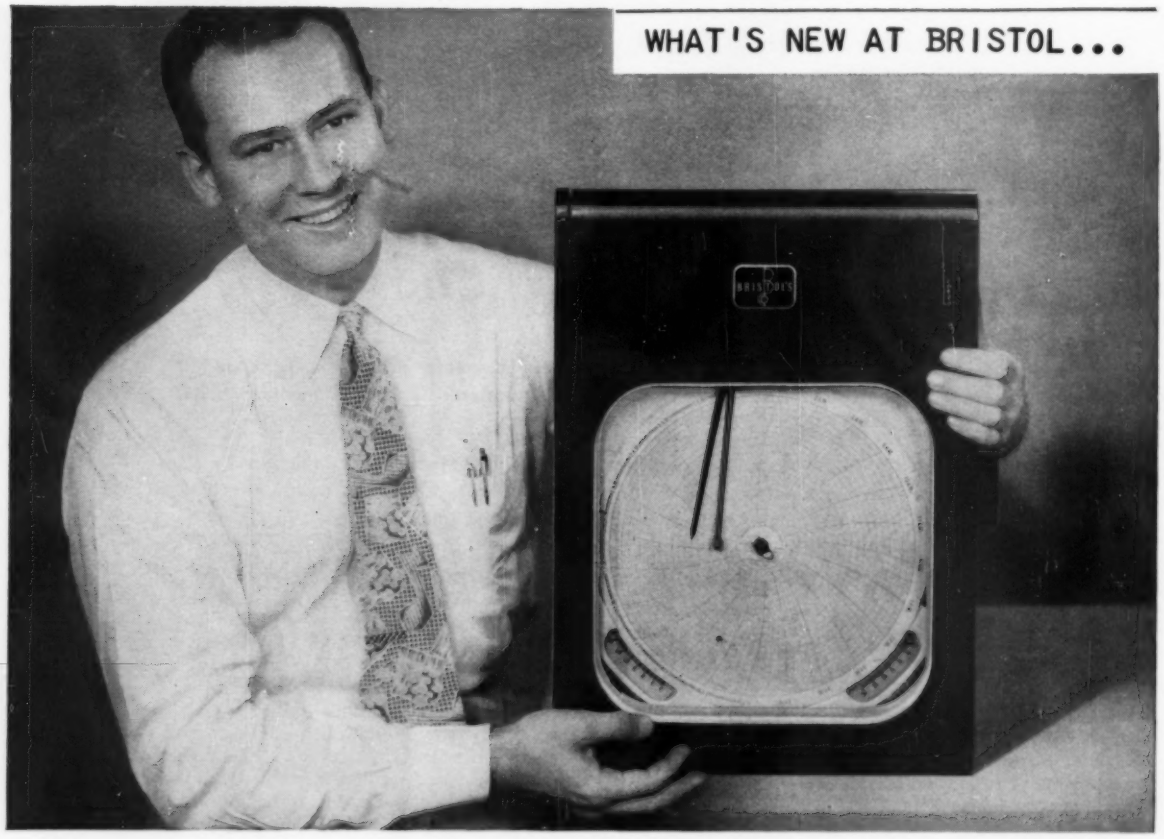
But even within the limitations imposed on you, there may be opportunity for discretion in the timing of certain features of the change. As an example, you may be able to relocate some employees in other jobs before the new machinery is installed. You can also plan for the best sequence of discussing the impending change with individual employees and with the union shop steward, if your plant is organized.

On many other changes that are less far-reaching in their effects than the one we have been considering, there will be more room for judgment on your part in timing the announcement and putting the change into effect. The proper timing will vary, depending on a number of circumstances—whether the change is helpful to a particular employee, whether the grapevine circuit has anticipated and garbled the actual facts of an impending change, previous practice in the department in handling similar changes, and so on—but as supervisor, you can weigh the circumstances and time your action as sensibly as possible.

3. Explain the change fully—in advance

Because so many of us hold on to the status quo and resist changes that disturb our habit pattern, it is plain good sense to explain to employees what change is being

CONTINUED ON PAGE 147



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made—and why—*before the change takes place*. It's far better that they should get the facts straight from you than in a distorted manner from another source.

There's a story told about a well-known industrialist who was touring his headquarters on an evening after the office force had left for the day. Coming to a particular department, he asked the officials accompanying him what work was performed there. On being told, he stated that the function was not necessary and ordered his subordinates to have all the desks turned upside down.

You can easily picture the consternation that developed the following morning when the employees of that department reported for what had been their jobs on the previous day. As a device for letting people know they were no longer needed on the payroll, it was crudely effective. But as a method for inspiring the confidence and cooperation of the employees still on the payroll, it was sadly lacking.

Going back to our example of installing new machinery, it is pretty clear what you would tell the employees concerned. In general, you would tell them that the new machines were to be installed, how many operators would be required, how their duties would be changed, what advantages there were in the new machinery from both an operator and company standpoint, when the machines would be installed, how the personnel changes would be handled, and enough other information to give them an accurate picture of what was taking place. In particular, you would advise individual employees exactly how they would be affected by the change and make every effort to answer any questions they might ask.

Remember that you and I want to know what is going to happen to us, and why. This fact is true in small things and big things. The employees who work for us, in this respect at least, have exactly the same desire as we do. Recognize that desire. Honor it by explaining any change before it takes place. Go a step further and if at all possible, show what effect the change will have so as to alleviate any fears or unnecessary concern.

4. Notify the union representative

If your mill happens to be organized, it is sound strategy to inform union representatives of planned changes of a major nature, even if such a procedure is not required by the terms of the collective bargaining agreement. This is supplementary to the explanation you give to individual employees, however; it is not a substitute for that very vital step.

In a major change such as we are discussing here, it is a pretty safe bet that the union is going to hear about it. It will make for better handling, labor-relationswise, if union representatives also have a factual picture directly from you rather than a distorted picture from a few employees who may misrepresent the situation in their own interest, or even inadvertently.

Many employee-relations problems have arisen because employees simply did not understand a change—and did not understand because nobody bothered to explain. Such problems can be minimized, and perhaps prevented entirely, if you, as a supervisor, will accept the fact that employees, out of logical self-interest, want to know what is happening; if you will anticipate the impact the change will have and work out solutions in advance; and if you will explain factually and completely the what and why of the change you are making.

HOSIERY-FINISHING PLANT CONTINUED FROM PAGE 104

draw the hot air away from the preboarding machines.

A low wall divides the preboarding section from the storage area while a fibreboard partition guides the steam to the fans. Between the wall and the partition is an empty space, and cool air is drawn through the space over the preboarding machines.

Windows, chiefly for psychological reasons, line the outside walls of the preboarding room. The preboarding machines are Paramount women's-hosiery machines that have been converted to process men's socks.

The floor throughout the plant is concrete, but wooden platforms are placed at the boarders' and preboarders' stations for comfort.

Smoking booths are located in the preboarding room and throughout the plant. No stringent smoking rules are laid down. A worker can smoke when he wishes, and the privilege is not abused.

Socks Automatically Dyed

Preboarded goods are replaced in bags for stock or dyeing. Smith-Drum rotary machines that are automatically controlled are used for dyeing. The dyehouse is cooled in a similar manner to the preboarding room.

Tickets are made out for each lot of hosiery at the dyehouse, and these tickets travel with the goods right through to the shipping section. Stubs are torn off the ticket at each process for payroll figures.

Washed air is constantly delivered to the boarding room from a Buensod-Stacey unit built outside the boarding room. Aluminum duct work delivers the cool air to each boarder's alley. Boarders adjust louvers at each outlet to suit their requirements.

Sarco boarding machines, which do not use steam, are used for pastel-colored argyle socks to prevent bleeding.

The pairing and examining room is completely air conditioned. Pairers face one another across smooth Formica-topped tables. All socks are paired for foot and boot length and checked for faults.

A counter, fixed on the table, is moved as each pair is completed; and a bell rings at the completion of each dozen socks. The work is then placed on a board to be delivered to the stock room.

Metal racks store finished goods. Several million pairs of socks are stocked in this section. Styles are kept in separate racks. Each order girl controls a certain number of styles.

Bowman machines are used for placing transfers on large orders of hosiery, but smaller orders are hand-transferred.

Box-Making Plant Speeds Work

A box-making plant insures no delays when orders are received. Special boxes can be made within 2 hrs. of the receipt of the order.

Small boxes are made with units consisting of two box-making machines. One machine makes the lid part of the box, which is automatically covered, while the lower part of the box is made on the other machine. The two parts are brought together on conveyors to be assembled.

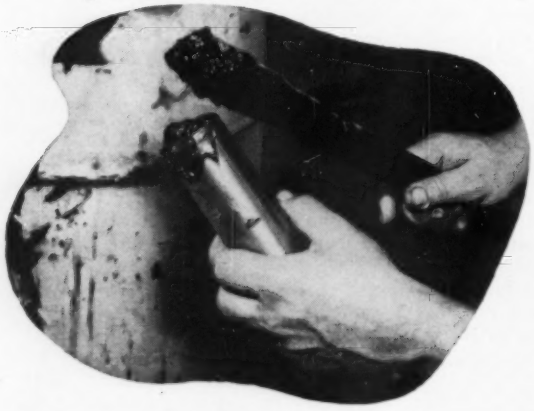
Larger boxes are made on machines that automatically join each corner at the same time with gummed tape at the rate of one box per second.

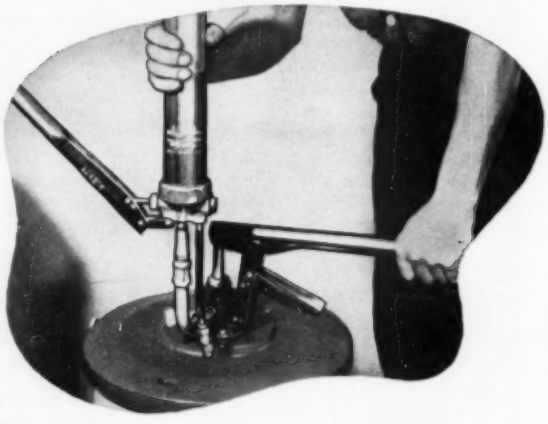
Finished goods are stacked on pallets, and fork trucks move the goods to the shipping trucks. A post office inside the plant takes care of urgent deliveries.

YOUR PRODUCTION GOES UP...

when you switch lubrication methods from

Backward to Forward!





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Alemite can furnish a hand gun of correct capacity for your operation—from 8 ounces to 2 pounds. And you get the pressure you need—up to 15,000 pounds! There is an Alemite Loader Pump to fit any standard lubricant container you normally use—stationary models for 100-lb. and 400-lb. drums; portable models for 25-lb. and 35-lb. pails.

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EQUIPMENT and SUPPLY NEWS

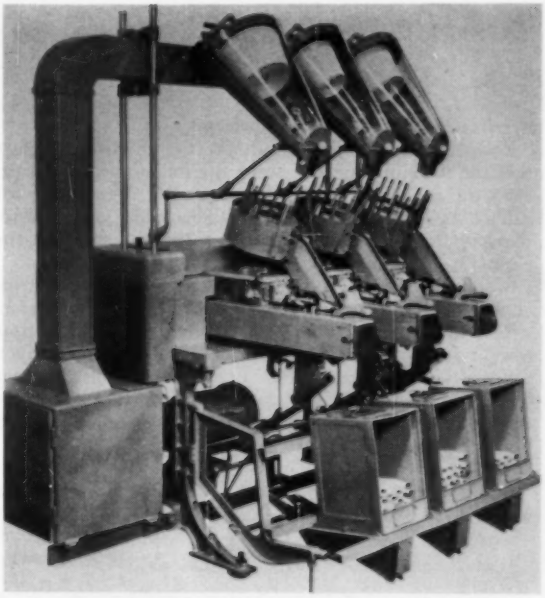
Filling Winder

An automatic filling winder with spindle speeds to 10,000 rpm. will be manufactured by Whitin Machine Works, Whitinsville, Mass., under license from Schweiter Ltd., Horgen (Zurich), Switzerland.

Called Fill-Master, the winder can handle any size of yarn made of any kind of fiber. There is a dust-exhaust system for every winding position to assure yarn cleanliness. Scissors and tail cutters have been eliminated, since the bobbins are wound without tails. A special mechanism for differential binding of yarn layers produces firm packages with minimum tension.

The winder can be adjusted to handle 10⅛-in. bobbins. Speed is adjustable at each winding position. Almost completely automatic, Fill-Master can be equipped with a high-speed bobbin loader that supplies up to 60 bobbins per minute; and filled bobbins can either be dropped onto pinboards or automatically packed into a loom box under each unit.

Whitin points out that Fill-Master represents an addition that complements its line of Whitin-Schweiter MS and Speed-Matic winders. The winder will be sold through normal Whitin sales channels and by H. J. Theiler Corp., sales agent, with offices in Whitinsville and in Spartanburg, S. C.



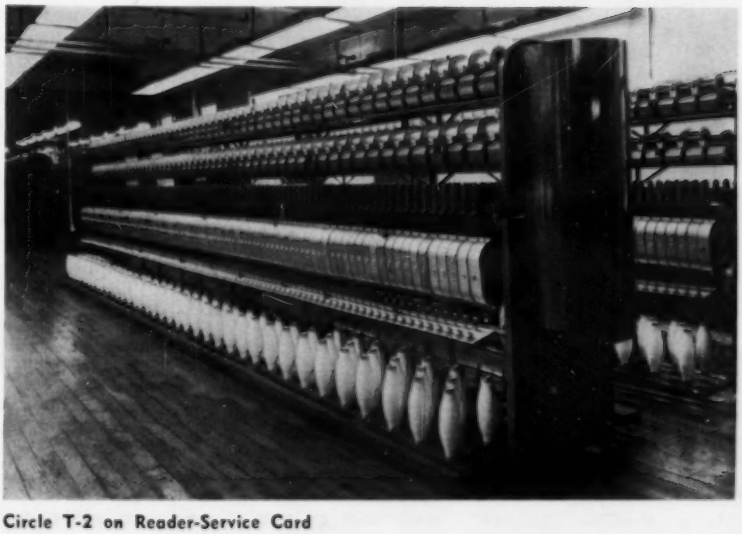
Circle T-1 on Reader-Service Card

Stretch-Yarn Machine

The Superloft stretch-yarn machine built by Universal Winding Co., Box 1605, Providence, R. I., combines into one continuous process what was previously a seven-step operation. A 216-spindle machine will produce over 400 lbs. of 70-den. stretch yarn weekly.

Raw yarn first goes through a tension and then a set of feed rolls. From the feed rolls, the yarn passes over a heating element and then through a false-twist spindle. Twist imparted by the spindle is set in the yarn while it is heated and removed after the yarn has passed through the hollow false-twist spindle. The finished yarn is taken up on a spool.

The yarn retains a permanent crimp to give the stretch characteristic. The yarn produced is clean and uniform.



Circle T-2 on Reader-Service Card

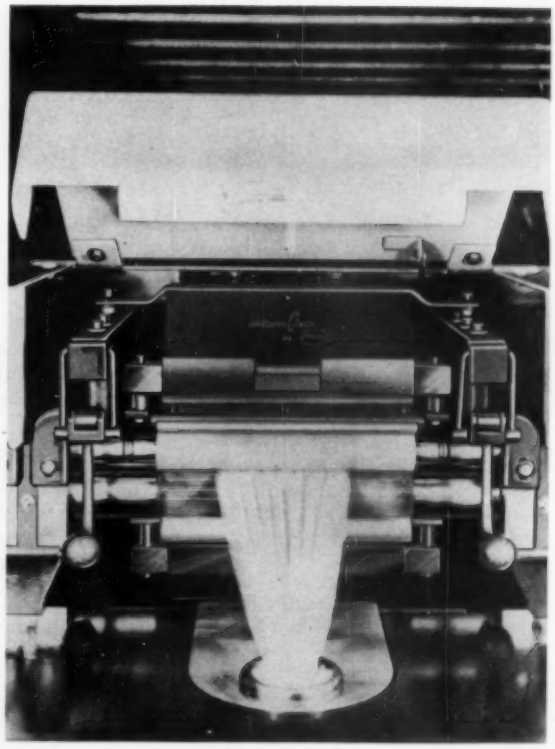
Drawing-Frame Clearer

PneumaClear, a suction-cleaning system manufactured by Pneumafil Corp., Wilkinson Blvd., Charlotte, N. C., is now available on Whitin Even-Draft drawing frames and has been applied to the Warner & Swasey pin drafter. The system is different from the Pneumafil broken-ends collector and cleaning system for spinning frames. The primary purpose of this new system is to eliminate eyebrowing of roll clearers and to keep rolls cleaner.

The equipment for each delivery consists of a series of five clearers that clean the first three lines of top rolls and the first four lines of bottom rolls. Each of the first three lines of top rolls is equipped with an individual clearer. The bottom rolls have one clearer for each two adjacent rolls.

The clearers consist of a rubbing pad made from antistatic synthetic-rubber material mounted so that the pads maintain an even, gentle touch across the roll surfaces. Suction orifices are strategically located at each clearer so that the incoming air will sweep the roll surfaces and carry away the individual fibers as they are lifted from the roll surface by the clearer pads. These orifices also provide transportation air that keeps the entire system open and clear for continuous service.

The clearers are mounted on detachable connectors that convey lint and air to their respective collecting ducts, which are mounted immediately behind both the bottom row and top row of drafting rolls. The collecting ducts run the entire length of the frame and exhaust the collected air and waste into the collector unit that serves as a center samson of the machine frame. PneumaClear cannot be applied to old drawing frames.



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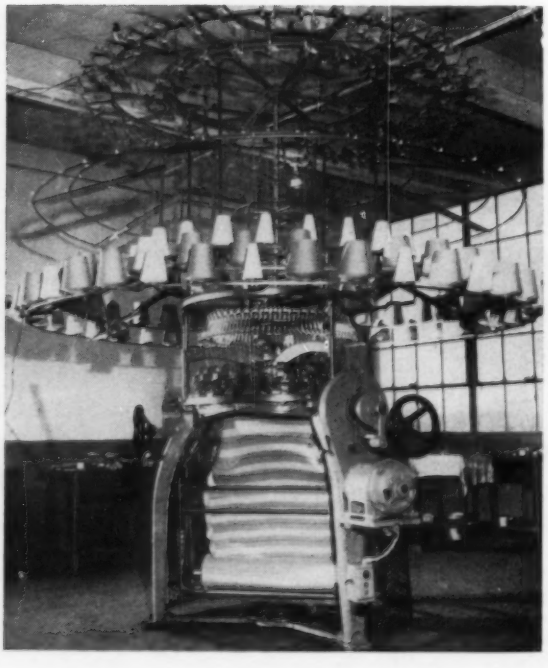


Multifeed Pattern Rib Machine

The standard 30-in.-dia. Model SAR-PP machine built by Supreme Knitting Machine Co., 94-02 104th St., Ozone Park 16, N. Y., has 24 feeds. The machine uses four-color striping boxes, three-position pattern wheels, and automatic tuck controls on each feed to produce automatic variable stripes or solid-colored rib fabrics with patterned inserts. The inserts can be placed as close or as far apart as desired.

Automatic tuck controls on the dial feeds make draw-thread separations possible when required. The separations can be placed as far apart as desired for body lengths or as close as required for trimmings. The draw thread is easily removed to produce a uniform selvage edge.

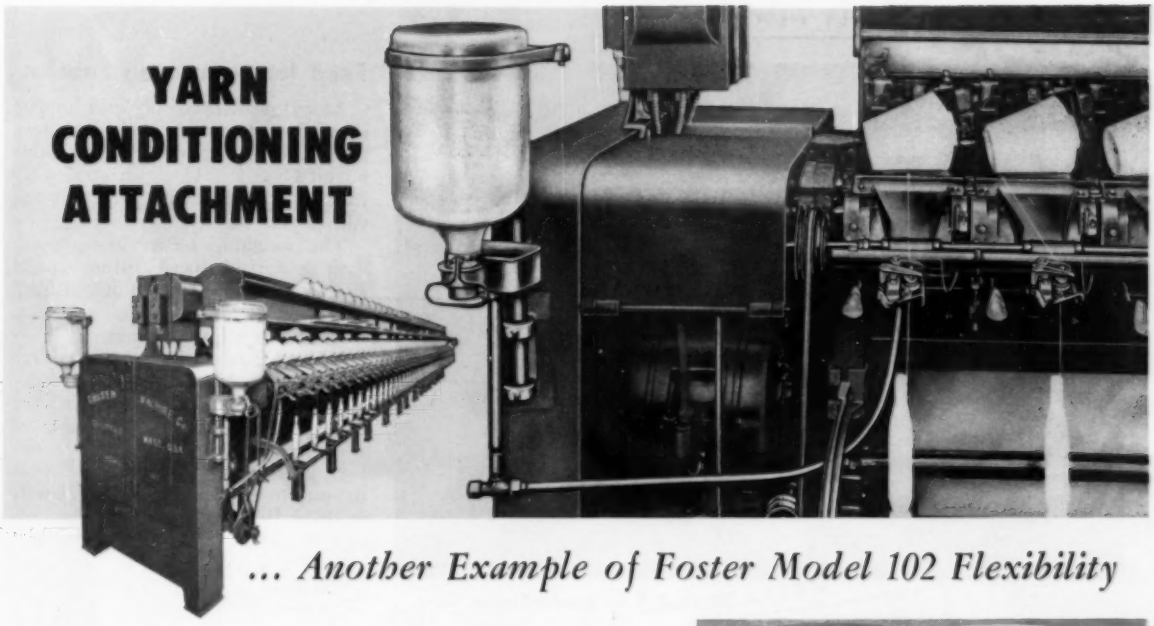
A seam-knitting device permits the seam to be knitted with all feeds regardless of the number of feeds in action.

The standard 30-in.-dia. model is available up to 14 cut. The 24 four-color striping-box feeds remain in knitting action at all times. Each striping box is individually and automatically controlled.

Each cylinder feed has a three-position pattern wheel for knit, tuck, and welt positions and automatic control of the cylinder cams for knit, welt, or tuck positions.

Circle T-4 on Reader-Service Card

YARN CONDITIONING ATTACHMENT



... *Another Example of Foster Model 102 Flexibility*

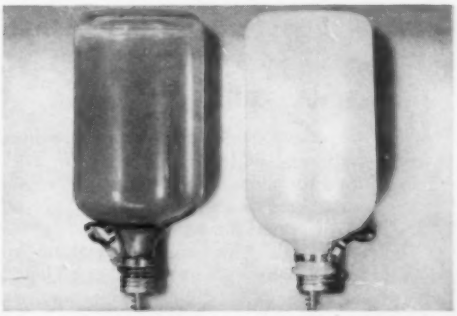
This flexibility feature of the Foster Model 102 Winder is particularly important, because some types of winders can not use yarn conditioning attachments.

This attachment lubricates and softens yarns with a wax or oil emulsion. It restores normal moisture content and gives the yarn a soft hand, so that it will run well in the knitting machine and reduce needle breakage.

Readily applied to existing machines, or supplied with new machines, it is particularly useful when winding mercerized yarn or package dyed yarn. It can condition any type of yarn at any speed within the capacity of the machine — up to 750 y.p.m. It also permits numerous variations in percentage of moisture pickup.

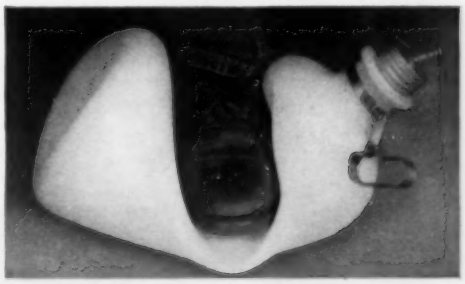
Other flexibility features of the Foster Model 102 are: — 1. Handles any type or count of staple yarn except the coarsest. 2. Produces any cone taper commonly used and any angle of wind from 9° to 18°, with simple and inexpensive changes. 3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. 4. Winds dyed yarn, even when damp. 5. Can be built to wind up to 7" traverse.

Who knows what you'll be winding a few years from now? Be prepared for the unforseen insofar as possible. Get all the facts about the Foster Model 102. Send for Bulletin A-95 now.



GLASS PLASTIC

PLASTIC BOTTLES now available for Foster Yarn Conditioning Attachment. Weigh only 2 lbs. ½ oz. Glass bottle weighs 6 lbs. 15½ oz.



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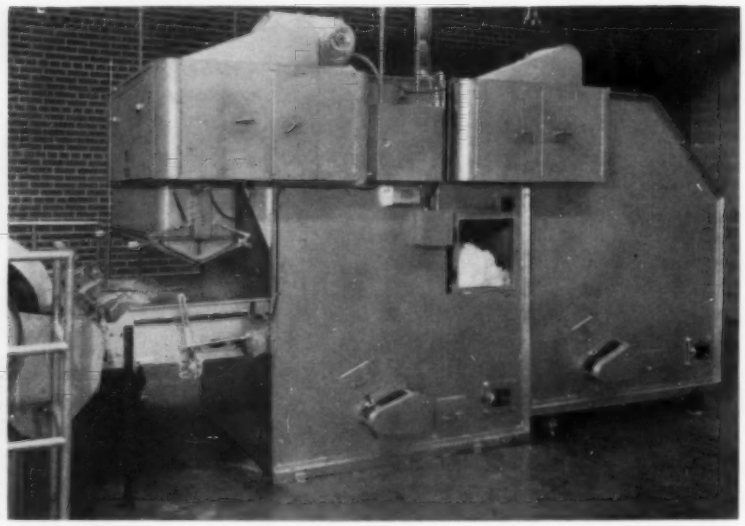


Feed for Nonwoven Fabrics

An automatic-weighing feed hopper for cards and garnetts used in producing nonwoven fabrics is being manufactured by W. D. Dodenhoff Co., Inc., 745 Lowndes Hill Rd., Greenville, S. C.

The weighing feeder is equipped with a variable-speed lifting apron and Sargent-type comb to deliver fiber in the required time and give any amount of opening required.

It has an electric eye to control tandem-hopper feed. This feature decreases the differential between the maximum and minimum amount of stock in the automatic-weighing hopper. Therefore, there is little variation in yard-to-yard weight of the web made on the lapper, which follows the card or garnett in the tandem process. Variation is held to ±1%.

Circle T-5 on Reader-Service Card

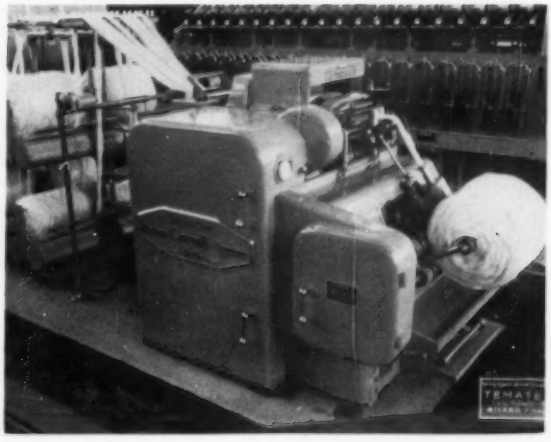
Intersecting Gill

The Tematex Super Intersector announced by Stellite American Corp., 60 E. 42nd St., New York 17, N. Y., can be used for all combing and recombing operations and for the first three or four drawing passages in the French, Bradford, or American systems.

Each head can deliver a sliver weighing from 30 grams per meter down to 2 grams per meter. There are 64 fallers per head, and faller drops per minute average 1,140. Length of the faller bed is 9.055 ins., and the width is 7.875 ins. Fallers have no bends or projections. With 1,365 faller drops per minute and a draft of 10, delivery is 134.5 yds. per min.

The unit is made with one or two heads and with one or two deliveries per head.

The drafting system has three rolls. Each head has its own independent drafting unit. The drafting unit has an electrical stop motion for roll laps or sliver breaks.



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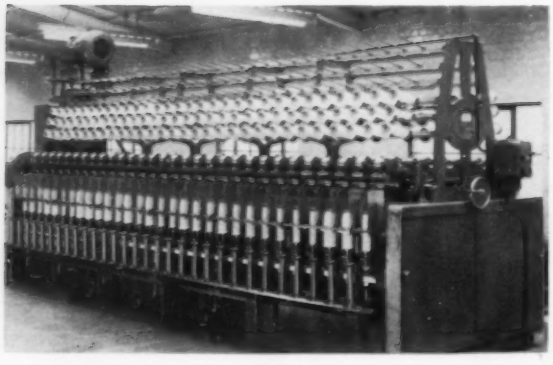

Twister Frame

The Universal twisting frame, made by Prince-Smith and Stells, Keighley, Yorks, England, is used for doubling and cabling nylon and other synthetic yarns to eliminate assembly winding.

Each thread in the creel has an individual stop motion that acts on the delivery rolls and on the spindle simultaneously. Each spindle can be run as an individual unit. If a supply package runs out, only one spindle will stop while the others are running and producing.

Knots are tied in the single yarns. The efficiency is from 70 to 90%, and the operators' work is easier.

Circle T-7 on Reader-Service Card

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2 APPLICATION

Printing, padding and one or two bath dyeing of cotton and rayon, with conventional methods. The color in this advertisement represents a padding of approximately ½% on cotton broadcloth.

3 ADVANTAGES

A bluish brown self shade previously obtained only with mixtures to give tan shades of excellent fastness. Easily oxidized and with good solubility.

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Our application laboratories are daily solving new, difficult color-matching problems. Years of experience and research have equipped us to furnish the exact color you require . . . exactly — with speed, efficiency, economy. Write today for full information.

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SELLING AGENTS

Importer of the manufactures of Durand & Huguenin S. A. Basle, Switzerland

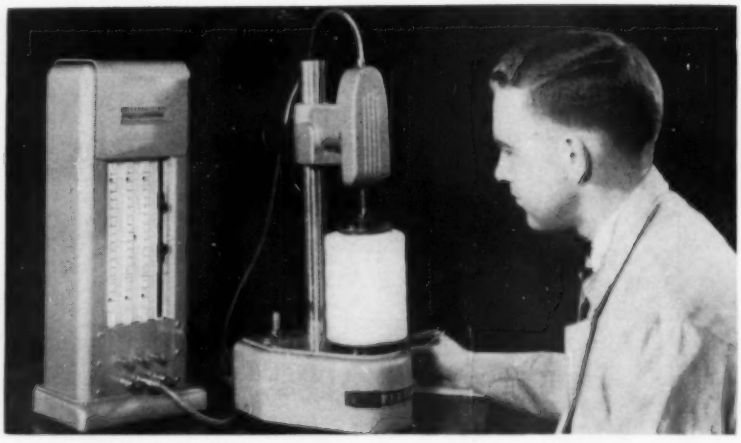
Pfister · PHARMA · REICHHOLD CHEMICALS, INC. · OMB OTTO B. MAY, INC.

CHARLOTTE · PROVIDENCE · PHILADELPHIA · COLUMBUS · LOS ANGELES · HAMILTON, ONTARIO

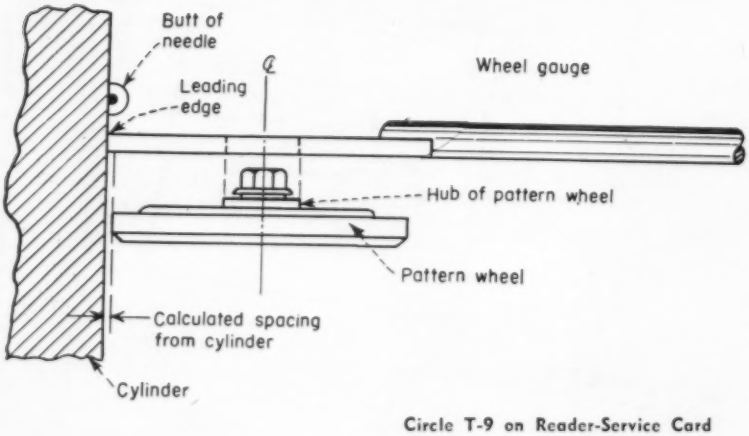
Dye-Package Density Comparator

An instrument that checks density of yarn packages has been developed by Sheffield Corp., Box 893, Dayton 1, Ohio.

Valuable in determining the proper density for any yarn or package in respect to dyeing quality, the instrument operates by forcing a stream of compressed air through the package. A linearly graduated scale gives readings in units of air flow at the indicated pressure. Models are obtainable to cover the entire range of yarn packages now used in the industry.



Circle T-8 on Reader-Service Card



Pattern-Wheel Setting Gauge

Supreme Knitting Machine Co., Inc., 94-02 104th St., Ozone Park 16, N. Y., has developed a pattern-wheel setting gauge.

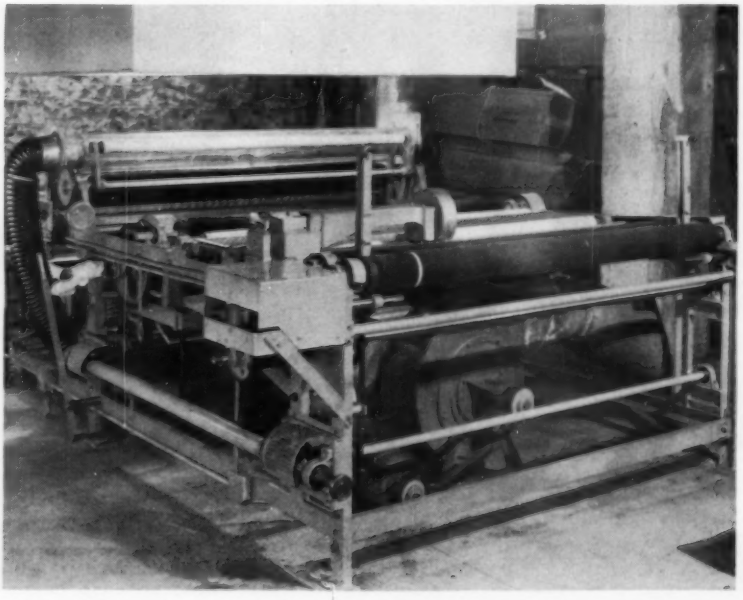
The gauge is a piece of steel with an accurately reamed hole located in a fixed position from the leading edge. This hole fits over the edge of the pattern-wheel hub and extends over the edge of the pattern wheel the correct distance to give exact operating clearance.

Circle T-9 on Reader-Service Card

Sponging Machine

A machine that will perform six different sponging and finishing operations in one run has been developed by Mawaco Machine Co., Inc., 56 Bogart St., Brooklyn 6, N. Y.

Fabric can be steamed, brushed, sponged, cooled, measured, and rolled in one operation on the machine.

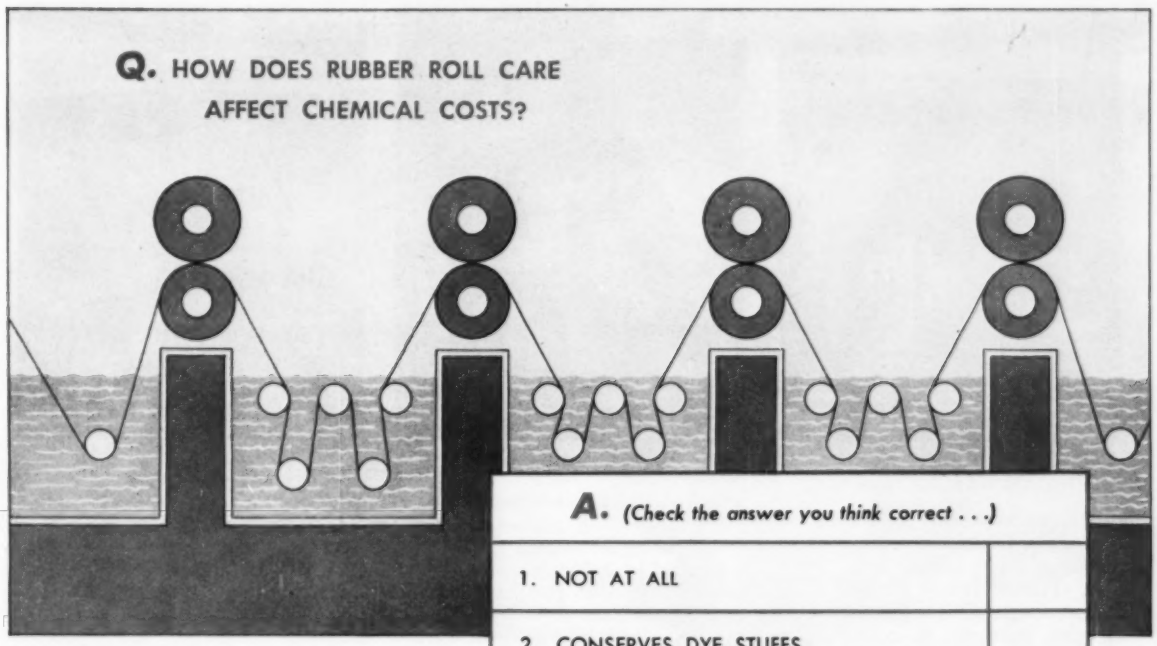


Circle T-10 on Reader-Service Card

STOWE-WOODWARD Maintenance Tips

for better finishing at lower cost

Q. HOW DOES RUBBER ROLL CARE AFFECT CHEMICAL COSTS?



A. *(Check the answer you think correct . . .)*

1. NOT AT ALL	
2. CONSERVES DYE STUFFS	
3. ELIMINATES EXCESS NEUTRALIZING OPERATIONS	

You'll find the correct answer in these Maintenance Tips

If you checked answer #1 you may be overlooking one of the most important contributions that fine rubber covered rolls can make toward reducing costs. Actually answers #2 and #3 are both correct.

In modern high speed range finishing operations, where the cloth passes from dyestuff into washers or chemical baths, the carry over of dye, or chemicals into the next succeeding bath is determined by the effectiveness of the squeeze rolls. It goes without saying that the greater the volume of excess fluid removed by the rolls, the less the carry over and the less the contamination of the next bath. In many mills it is necessary to add chemicals to the water to neutralize the effects of carry over; and savings in the amount of these chemicals, necessary to purify the bath, can also be achieved through the use of efficient squeeze rolls.

Your Stowe-Woodward sales engineer will be glad to help with any problem regarding the care, selection or use of rubber covered rolls.

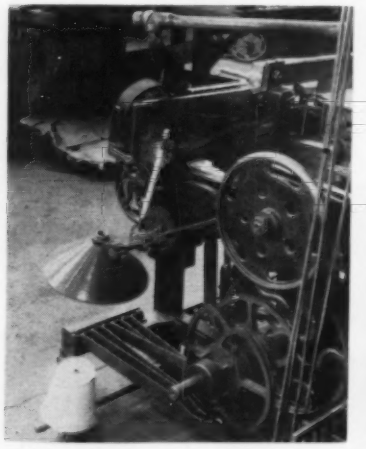
"RUBBER ROLLS with a REPUTATION"

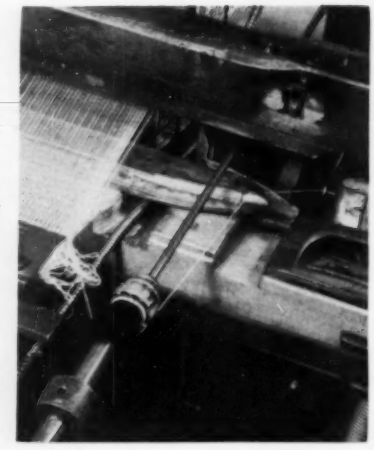
STOWE-WOODWARD, Inc.

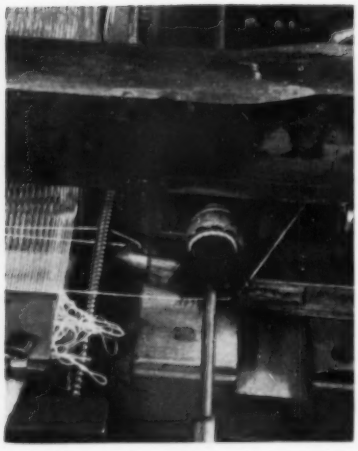
Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

For more information, write direct or use Reader-Service post card.







Filling Device for Looms

A device to furnish filling yarn to a loom from a cone of yarn is being manufactured by John Pilling & Sons Ltd., Primet Bridge, Colne, Lancashire, England. The attachment is designed primarily to convert non-automatic looms to looms with a continuous filling supply.

All cloth woven with the device has double picks of filling. A fringe of filling is left at each selvage, but the filling is held fast.

The filling is inserted through the warp shed by a shuttle somewhat like a common shuttle. However, the shuttle is longer than an ordinary shuttle and has a hook at each tip to engage the yarn and draw it through the shed. (Photograph No. 2.) The shuttle is also flatter than an ordinary shuttle, which permits running a smaller warp shed.

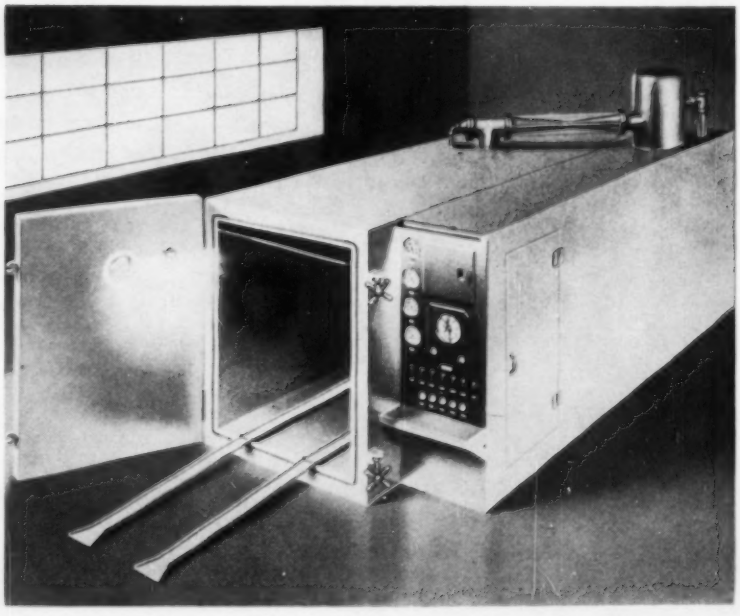
A revolving brush holds the yarn in position to be picked up by the hook at the shuttle tip. A coiled spring removes the filling from the shuttle at the end of each pick. (Photograph No. 3.)

Complete conversion to the device costs about $210. The mechanism is used on looms 24 to 90 ins. wide.

Circle T-11 on Reader-Service Card

Steamer-Vacuum Unit

Application of steam or vacuum to various textile purposes is possible in a machine introduced by Vacuum Process Div., John Mohr & Sons, Chicago, Ill. Suggested uses are in twist setting and moisture control in baled fiber and rayon cakes. Uniform drying with controlled regain is possible with the equipment.



Circle T-12 on Reader-Service Card

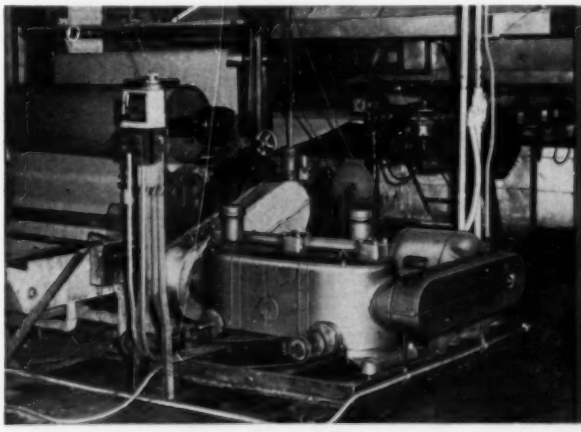
BETTER products FASTER

When Your Textile Machinery has

VICKERS *Variable Speed* Hydraulic Transmissions

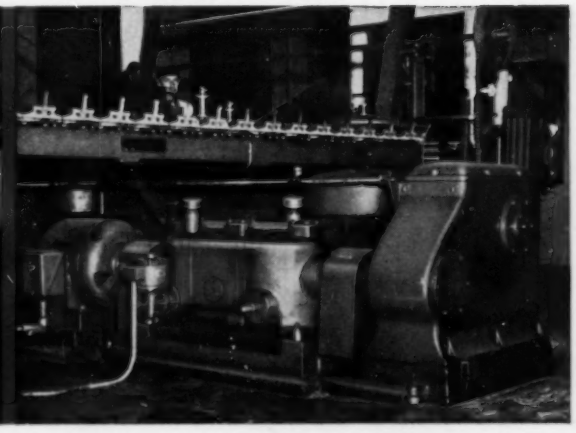
Extreme precision of control and phenomenally low maintenance are among the characteristics which make Vickers Hydraulic Variable Speed Drives so desirable on textile machinery. Infinitely variable and stepless running speeds, selective creep speeds, automatic overload protection, independent adjustment of acceleration and deceleration and automatic maintenance of tension, are other advantages you get with Vickers Hydraulic Equipment.

Note applications below and then ask our nearest Application Engineering Office for a copy of Textile Bulletin 54-66.



VICKERS HYDRAULIC PAD DRIVE

This machine has operated six years without maintenance except periodic oil changes. Superior speed control is obtained from dancer roll signal through chain and sprocket arrangement. Stepless speed selection is infinitely variable from zero up to maximum. Controlled acceleration and deceleration rates are positive and smooth. Variable horsepower generator characteristics keep power input down to requirements of machine under all load conditions.



VICKERS HYDRAULIC TENTERING FRAME DRIVE

Easily adjustable tension is accurately maintained automatically. Speed variation is stepless and infinite from zero to maximum while creep speeds are selective instead of fixed. With this drive the machine does better work faster with complete dependability.

VICKERS
INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
1588 OAKMAN BLVD.
DETROIT 32, MICH.

Application Engineering Offices: • ATLANTA CHICAGO • CINCINNATI • CLEVELAND DETROIT • HOUSTON • LOS ANGELES AREA (El Segundo) • MINNEAPOLIS • NEW YORK AREA (Summit, N.J.) • PHILADELPHIA AREA (Media) • PITTSBURGH AREA (Mt. Lebanon) • PORTLAND, ORE. • ROCHESTER ROCKFORD • SAN FRANCISCO AREA (Berkeley) • SEATTLE • ST. LOUIS • TULSA WASHINGTON • WORCESTER

IN CANADA:
Vickers-Sperry of Canada, Ltd., Toronto

FOR FURTHER INFORMATION *Ask For* BULLETIN 54-66

7249

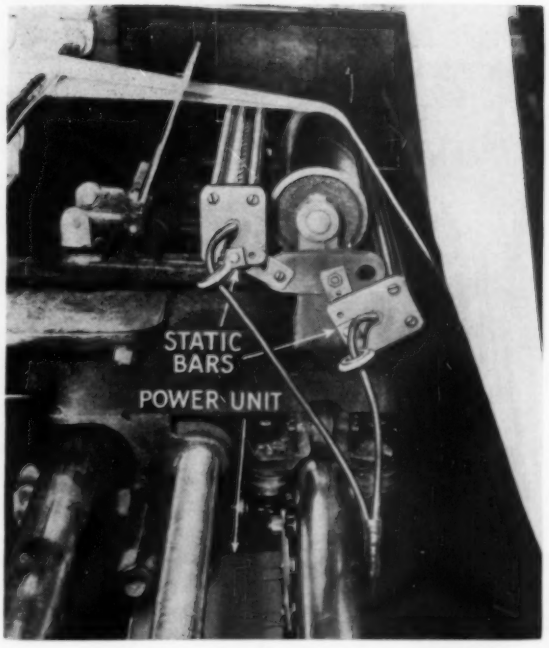
Engineers and Builders of Hydraulic Equipment Since 1921

Static Eliminator

Simco Co., Lansdale, Pa., has announced the application of its HE shockless static bars to horizontal warpers. Principal advantages of the static eliminator are that it stops the flying of ends, prevents overlapping and entangling of adjoining section edges, does away with warp section marks, and permits closer spacing of the sections.

The equipment consists of two static bars and a midget power unit. One static bar is located ahead of the section roller; the second bar is between the roller and the reel. The power unit is mounted on the moving carriage.

The bar produces no shock even when the points are touched, and it can be used safely in the presence of flammable solvents and in hazardous operations such as the carding and garnetting of cotton.



Circle T-13 on Reader-Service Card

Mending Table

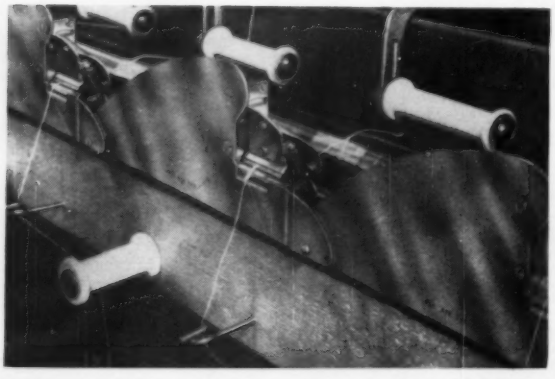
The Newey mending table developed by S. Waugh and patented by W. E. Yates Ltd., Bramley, Leeds, England, increases mending output 15%.

The table has the same over-all dimensions as the average mending table, but it has a container that fills the upper half of the table. The table top is hinged and acts as a lid to the container.

The fabric to be mended is placed in the container, and the cloth is pulled over the table top. The top is adjustable to the best working position. The fabric falls between a slide board and the container to a cloth carrier on the floor beneath the table. To work on the fabric back, the cloth is passed under the container, up the back of the table, and over the table top again.

The table top is moved to close the front aperture and open another aperture that allows the fabric to slide back into the container.

Circle T-14 on Reader-Service Card



Yarn Clearer

The Kenicoll yarn clearer, made by Cook & Co., Manchester, England, is being marketed by Stellite American Corp., 60 E. 42nd St., New York 17, N. Y.

The device was developed to provide slub-free yarn in worsted-spinning operations. Main feature is a trapping device that may be set to accommodate a wide range of yarn numbers. Wearing surfaces are supplied in tungsten-carbide, but other materials are available.

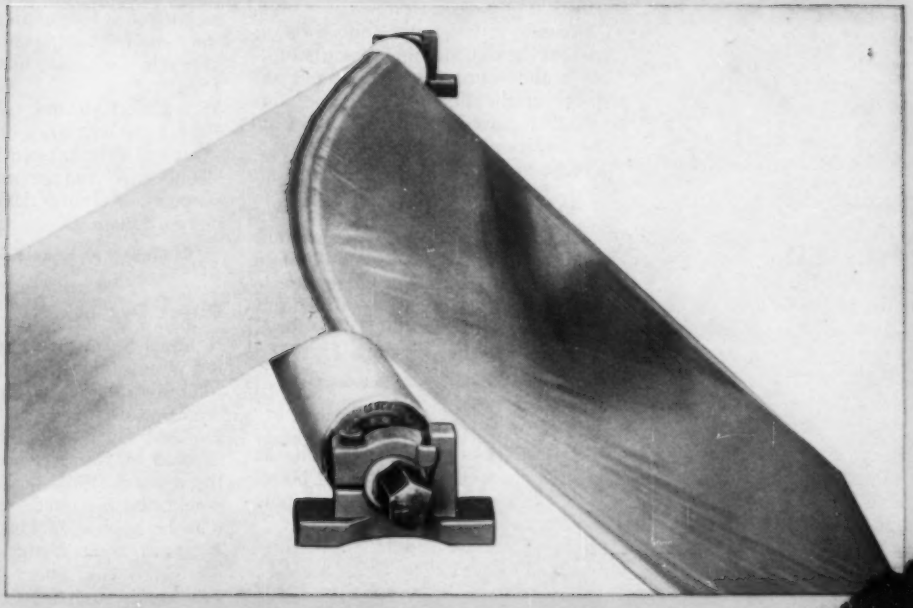
CONTINUED ON PAGE 226

Circle T-15 on Reader-Service Card

INCORPORATES

Mount Hope SYSTEM

"Free Wheeling" Expanders TO HELP YOU BEAT COMPETITION!



THE MOUNT HOPE "FREE WHEELING" EXPA
holds your fabric to full width and free of

For Maximum Production— Lower Cost—Minimum Seconds—USE the Complete MOUNT HOPE SYSTEM

Anoth
New Mount
Shop to give
service.

Write for a Production Cost Survey of your plant.

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HOPE
MACHINERY COMPANY
15 FIFTH STREET, TAUNTON, MASS.

Originator of Modern Expanders • Leader in Cloth, Paper and Plastic Handling
SOUTHERN REPAIR SHOP • CHARLOTTE, N. C.

 For more information, write direct or use Reader-Service post card.

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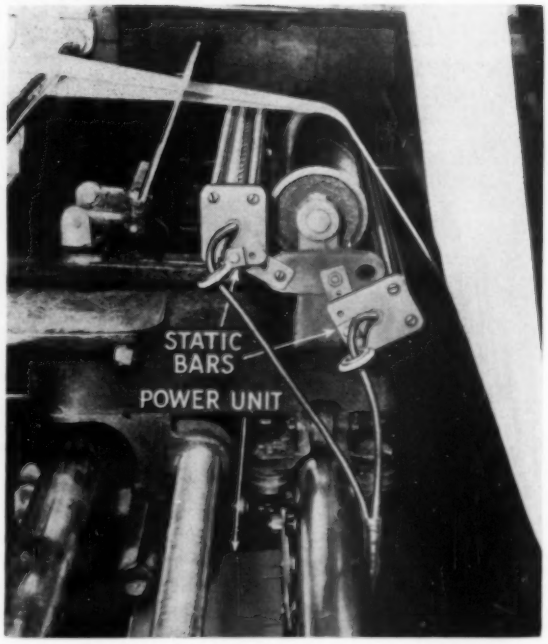

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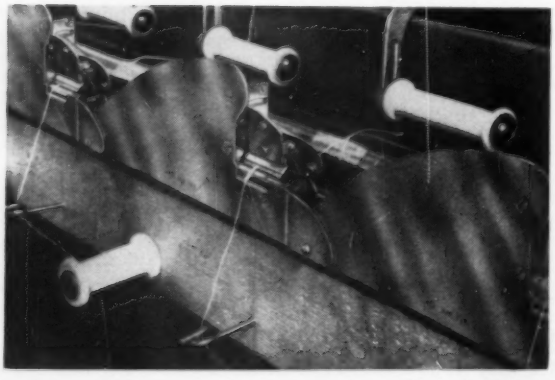

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CONTINUED ON PAGE 226

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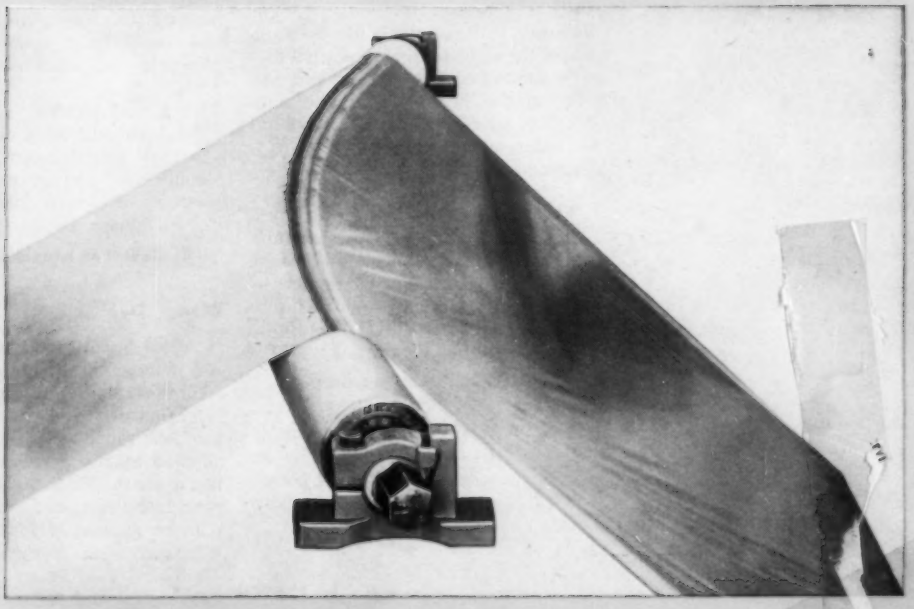

THE MOUNT HOPE "FREE WHEELING" EXPANDER holds your fabric to full width and free of wrinkles.

For Maximum Production—Lower Cost—Minimum Seconds—USE the Complete MOUNT HOPE SYSTEM

Write for a Production Cost Survey of your plant.

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NEW DYES and CHEMICALS

Wetting Agent

Synthrapol KB . . . an all-purpose detergent and wetting agent that will withstand most acid or alkaline conditions found in textile processing. Recommended for kier boiling, naphthol dyeing, desizing. Will not precipitate basic dyes. Arnold, Hoffman & Co., Inc., Providence, R. I.

Circle D-1 on Reader-Service Card

Spot Remover

Spot-Out . . . a pressure-spray spot remover for use on synthetic-pile fabrics. Will remove oily stains. Suggested for cloth rooms, garment manufacturers, and home use. Kandu Chemicals, 312 Seventh Ave., New York, N. Y.

Circle D-2 on Reader-Service Card

Water Repellent

Permel Resin B . . . is an improved product combining the good points of the original Permel resin with easier handling and running qualities. Compatible with many other finishing materials and copper-bearing dye fixatives. American Cyanamid Co., Textile Resin Dept., Bound Brook, N. J.

Circle D-3 on Reader-Service Card

Pigment Reds

Mercadium Reds . . . are cadmium-mercury sulfide products supplied in a light and dark red shade. The pigments produce brilliant shades resistant to heat, sunlight and alkalis. Applications include textiles, inks, paints of all types, paper, and ceramics. Imperial Paper & Color Corp., Glens Falls, N. Y.

Circle D-4 on Reader-Service Card

Coning Oils

Conoil . . . has a viscosity of 83 secs. at 100° F. Universal and is recommended for all yarns. Especially effective for stretch yarns.

Lastique . . . has a viscosity of 109 secs. and may be used as supplied or forms a stable emulsion with 4 to 10 parts water for greater uniformity and economy of application.

Lanacone . . . is a lanolin-based lubricant with a viscosity of 78 secs. that imparts excellent lubricity and machine-part protection.

Silacone . . . is a stable aqueous emulsion of the silicones that deposits a film with the lubricating power and stability of the silicones. Can be completely removed by scouring. Resistant to oxidation and will not discolor or deteriorate yarns.

The oils will not oxidize or form acids, and they combine maximum lubrication with ease of removal. Static electricity is reduced or eliminated by an additive that does not impair lubrication. Reading Testing Laboratories, 1145 N. Mill St., Reading, Pa.

Circle D-5 on Reader-Service Card

Nonionic Surfactant

Tergitol XD . . . is a low-foaming detergent of excellent emulsifying power. The product is a 100%-active polyalkalene glycol ether that melts at 28 to 35° C. Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

Circle D-6 on Reader-Service Card

Polyisobutylene Dispersion

Dispersion 108 . . . is a stable, aqueous dispersion of Vistanex, suitable as an additive to latex emulsions, or for laminating textiles. Suggested as a modifier of gums and starches, the product also finds uses in coatings, binders, and adhesives. Miller-Stephenson Chemical Co., Inc., 550 Fifth Ave., New York 36, N. Y.

Circle D-7 on Reader-Service Card

Packaged Water Repellent

Water-Skipper . . . is an aerosol-type water repellent, packaged in 12-oz. and 3-lb. containers. The material is a mixture of silicones, waxes, and a tung-oil derivative. Recommended for fabrics, leather, metals, and exposed surfaces of all kinds, the product is applied by spraying. A durable hydrophobic coating is deposited that has rustproofing and lubricating qualities. Textile Adjuncts Corp., 876 Pacific St., Brooklyn 38, N. Y.

Circle D-8 on Reader-Service Card

Lauryl Alcohols

Dytal J-68 . . . approximately 80% lauryl alcohol, this product is recommended for formulating antifoaming and emulsifying agents, detergents, softeners, and other textile specialties.

95% Lauryl Alcohol . . . now available in tank-car quantities on short notice, is a more concentrated form of lauryl alcohol, and can be used for similar purposes. Rohm & Haas Co., Washington Square, Philadelphia, Pa.

Circle D-9 on Reader-Service Card

Direct Dye

National Solantine Orange EGL . . . is a nondusting direct dye of excellent solubility that produces moderately bright shades of yellow-orange on cotton and rayon. It is practically unaffected by the presence of metals in the dyebath, leaves nylon and acetate practically unstained, levels well, and may be applied at low temperatures. Possesses good fastness to washing, alkali and cold water bleeding; very good fastness to light; excellent fastness to mercerizing, cold-water spotting, sea-water bleeding, hot pressing and rubbing. Also discharges to an excellent white with neutral discharge paste. National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Circle D-10 on Reader-Service Card

Direct Dye

National Solantine Brown 4RLVF . . . is a nondusting direct dye that produces moderately bright shades of red-brown on cotton and rayon. Possesses high tinctorial value and can be applied at low temperatures. Has good lightfastness in direct dyeings and retains fairly good fastness when aftertreated with crushproofing resins; exhibits very good fastness to washing, acids, rubbing, water, and sea-water bleeding; excellent fastness to perspiration, water spotting, and hot pressing. The dye is useful in the production of rayon and cotton suitings, hosiery, bathing suits, and coloring cotton-carpet yarns. National Ani-

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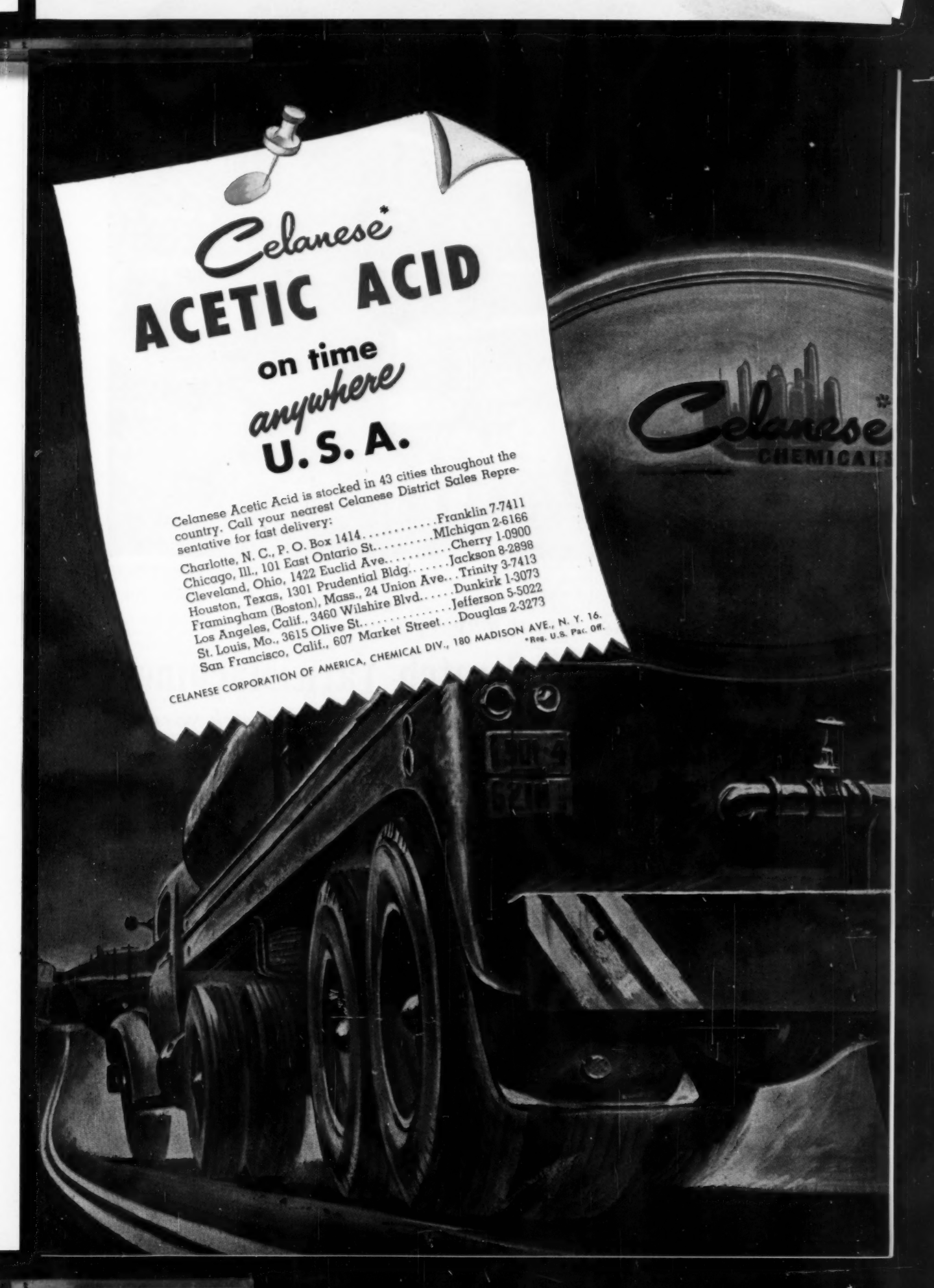
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Houston, Texas, 1301 Prudential Bldg. . . . . Jackson 8-2898
Framingham (Boston), Mass., 24 Union Ave. . . Trinity 3-7413
Los Angeles, Calif., 3460 Wilshire Blvd. . . . . Dunkirk 1-3073
St. Louis, Mo., 3615 Olive St. . . . . Jefferson 5-5022
San Francisco, Calif., 607 Market Street . . . Douglas 2-3273
CELANESE CORPORATION OF AMERICA, CHEMICAL DIV., 180 MADISON AVE., N. Y. 16.
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Celanese*
CHEMICAL

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Here are the reasons why

The SUPERLOFT Stretch Yarn Machine

is the most economical producer of top quality stretch yarn

A 216 spindle SUPERLOFT machine will produce over 400 pounds of stretch yarn a week.

Also, it does this in one single, high speed continuous operation, which assures cleaner, more uniform quality yarn.

This high quality performance is the result of outstanding Leesona-engineered features. For example:

- *Feed rolls are so arranged that one speed setting controls all. The same is true of take-up packages. Once the speeds are set to provide proper tension, that tension can never change — it remains constant from pirn to package and from spindle to spindle throughout the machine.*
- *Temperature of the heating element is controlled with precision accuracy along its entire length, and can be checked by thermometers located at regularintervals.*
- *The false twist spindles, which simultaneously twist and untwist the heated yarn, run at least 30,000 RPM — the equivalent of 60,000 turns per minute on conventional equipment.*
- *Take-up packages are staggered in two decks, enabling spindles to be set 2¾ inches apart in a single deck. This conserves floor space.*
- *The extra-solid UNIRAIL® type construction reduces vibration and assures long service life and low cost maintenance.*

You can buy the SUPERLOFT machine on a royalty-free license agreement, and take advantage of easy financing through either of the two Leesona Pay-As-You-Profit Plans.

Helanca*

High quality stretch yarns from the SUPERLOFT machine more than meet Helanca yarn standards, and, through an arrangement with Heberlein Patent Corporation, users of the machine may procure the right to label their yarns with the well-recognized Helanca name.

See your Universal representative, or write direct for more information.

*REGISTERED TRADE MARK, HEBERLEIN PATENT CORPORATION

23.5.31

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Winding and Twisting Machinery for Natural and Synthetic Yarns

QUESTIONS and ANSWERS

▶TEXTILE WORLD'S editors are at your service to help solve your problems in yarn manufacture, weaving, knitting, dyeing, finishing, or other textile operations. If you have a technical problem bothering you, send it along to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

Bad Tapers Cause Faulty Card Sliver

Technical Editor:

Every 21 ins., a thin spot appears in our card sliver as it comes from the calender roll. The spot is not caused by the coiler, and it occurs on both Whitin and Saco-Lowell cards. Are there any explanations for this variation? (9926)

One possible cause of these thin spots in card sliver may be what the card clothers call a spotty doffer, which results from the tapers not being cut correctly when the card is clothed. Bare spots are left at regular intervals on the doffer.

The circumference of a 27-in. doffer is about 84 ins. This figure divided by 4 gives 21 ins., or the distance between the spots in the sliver. Four bad tapers, two at each end, would indicate the trouble.

Some mechanical fault in gearing or belting that occurs every quarter revolution of the doffer might also explain the thin spots. Or some fault of the calender rolls or calender-roll drive may be the answer.

You state that the thin places occur on both Whitin and Saco-Lowell cards. Apparently, all your cards are delivering thin places. That is extremely odd for such short-term variation. About the only things that would cause the same pattern on all cards would be a fault at the picker or in the card power source, and 21-in. frequency is short for a recurring lap fault. It might be well to check your card power source.

How To Dye Tricot Black

Technical Editor:

What is the cause of cracks and creases in our black nylon tricot? The fabric is made from 15-den. nylon, and 18.5 sq. yds. weigh 1 lb. The material was preset before dyeing at 240° C. on a pin tenter. Dyeing operations are performed at 70° C. (9930)

The sample sent us shows evidence of being reworked in dyeing to a point where the tensile strength has been seriously affected. Tricot fabrics are always subject to cracking when processing has been incorrect or prolonged.

Your presetting operation should have almost guaranteed that a nylon fabric of this type would have come through dyeing unimpaired. But the fact that the tensile strength is so low indicates that the goods were subjected to a low pH for some time, probably at elevated temperatures.

Use this procedure for dyeing black on nylon tricot:

Scour the fabric with a synthetic detergent at 160 to 180° F.

Set the bath with ½ to 1% sulfonated oil on the weight of goods. Add the base dye at 110 to 120° F. and raise to 180° F. About 50% more base will be required than would be used for an acetate fabric. Maintain the temperature until the necessary depth of shade is reached, which will be a deep orange.

Cool the bath at the rate of 2 to 3° F. per min. by flooding the dyebeck. Rinse in cool water.

Make up the diazotizing bath with 50% more acid and sodium nitrite than is normally recommended. Run for 45 to 60 mins. at 30 to 40° F., and be sure no direct sunlight or even strong artificial light hits the fabric. Rinse twice in fresh cold water.

Develop with beta-oxynaphthoic acid at a pH of 5.5 to 6. Keep the bath cool for 45 mins., and then raise the temperature to 160° F. and hold for 30 mins. Rinse, and then soap with Igepon T for 20 mins. at 140° F. Use normal finishing procedures and a perfect fabric should result.

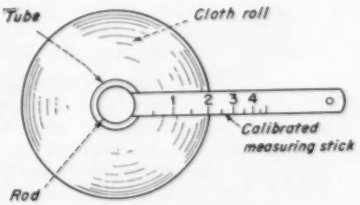
Indicate Cut Marks With A Gauge

Technical Editor:

Our warps are run through a slasher, and a red stain to indicate a cut mark is dabbed on the yarn to produce a mark about 12x4 ins. Weavers frequently allow the cloth to be woven beyond this length. We don't want to use cut meters. What do other mills do? (9940)

The pick counter can be used as a cut meter, but this method requires rather elaborate mathematical tables and records. You will find difficulty in getting the exact yardage in each piece without a cut meter. This method was described in TW, Dec., '53, p. 102.

One mill doffs the cloth with a gauge. The roll of cloth on the loom is measured from the rod to the outer edge of the roll with a calibrated stick. There is less than 10% variation in yardage with this method.



CALIBRATED STICK on loom helps to notify weaver when to doff cloth.

Use Hot Steel Roll For High-Glaze Finish

Technical Editor:

How can we get a highly glazed finish on black cheese cloth? We are using starch and sulfonated tallow for our finishing materials and calender the goods on a three-roll calender. (9931)

High glaze cannot be produced on a rolling calender, regardless of pres-

Honeywell process control assures high efficiency *for new Coats & Clark thread plant*

At the new Toccoa, Ga. plant of Coats & Clark, Inc., modern textile finishing equipment is complemented by modern instrumentation. Honeywell supplied the automatic controls for the mercerizing range, dryer, and caustic recovery plant.

COATS & CLARK'S modern new thread finishing plant in Toccoa, Ga., boasts the latest type processing equipment and automatic control. Instrumentation for caustic recovery, mercerizing, and drying is by Honeywell.

Outstanding example of economy and efficiency is the mill's caustic recovery plant. Caustic consumption has been reduced 75%. In addition, by-product heat in the form of hot water is used in the boiler plant, mercerizer, and other mill equipment. To protect this expensive equipment, three *ElectroniK* Conductivity Controllers continuously check the water for caustic content.

Mercerizing range temperature is controlled at four different stages by sensitive *ElectroniK* Recording Controllers. Honeywell instruments also control caustic density at the two middle stages.

As the threads leave the Andrews & Goodrich dryer, *Moist-O-Graph* detectors accurately sense moisture control, and regulate the set points of *ElectroniK* Temperature Controllers on each section of the dryer accordingly.

Honeywell can supply complete control equipment for every plant application. One source for instruments centralizes engineering responsibility, simplifies maintenance, and keeps your spare parts stock at a minimum. Your nearby Honeywell sales engineer will gladly discuss applications in your plant. Give him a call . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.

● **REFERENCE DATA: Composite Catalog No. 5002, contains brief description of the complete Honeywell product line.**

MINNEAPOLIS **Honeywell**
BROWN INSTRUMENTS
First in Controls

sure. You need a machine with a steel roll heated by steam to approximately 240° F. that is driven about 50% faster than the cloth traveling through the nip.

The lower bowl is usually made of cotton and highly polished. Pressure of about 10 tons is required to produce a good glaze, although this pressure will vary with the fabric and the finishing materials. A wax such as beeswax is often included in finishing formulas used for highly glazed work.

Finishing Machinery For Spun Rayons

Technical Editor:

What machinery is necessary for finishing fabrics made from spun rayon and acetate, blends of rayon and acetate, and blends of wool and synthetics? (9920)

We suggest the following line of equipment:

1. A butt-stitch machine of the Merrow type for joining pieces.
2. A combination singer-padder for singeing and desizing in one run. You may not want to singe all types, but you can use the machine as a desizing unit only.
3. A Hinnekens-type boil-off machine or a continuous rope-type machine. Some styles can go on either machine. Experience will tell you which is best.
4. Dyebecks should be of stainless steel and enclosed. If you have long runs in light shades, a continuous vat-dyeing range might be indicated.
5. Vacuum or centrifugal extractors to remove excess water after dyeing. Some styles are not suitable for centrifugal extractors.
6. Loop dryers with finishing pads set up to run in tandem.
7. Tenter frames to even the width and remove the wrinkles formed in the loop dryers. These frames should also be set up with finishing pads.
8. Decatizer. A semidecater will improve hand on many styles.
9. Silk calender is optional but very useful in breaking down finishes that are too stiff.

Don't Let Nubs Make Holes in Web

Technical Editor:

In distributing nubs on our woolen cards, there is a tendency for the nubs to make holes in the web. What can we do? (9935)

Your web may be too thin and the nubs too big. You must bring the size of nubs to a certain relationship to the thickness of the web. You can get large nubs in fine yarn, but the nubs are usually blended in the mixture from the beginning.

If the nubs are blended in the mixture, they are carded into the web by running over three cylinders. A few workers must be raised on each cylinder to comb the raw material but not the nubs. When the workers are raised, the nubs slip through and do not lose the appearance of nubs.

Running your cards too fast will cause holes in the web. Stretching the web too much between the last doffer and the tape condenser may cause holes. A supporter roll may be of advantage here. Place this roll between the doffer and the entrance to the tape condenser.

Don't Run Looms Without Drop Wires

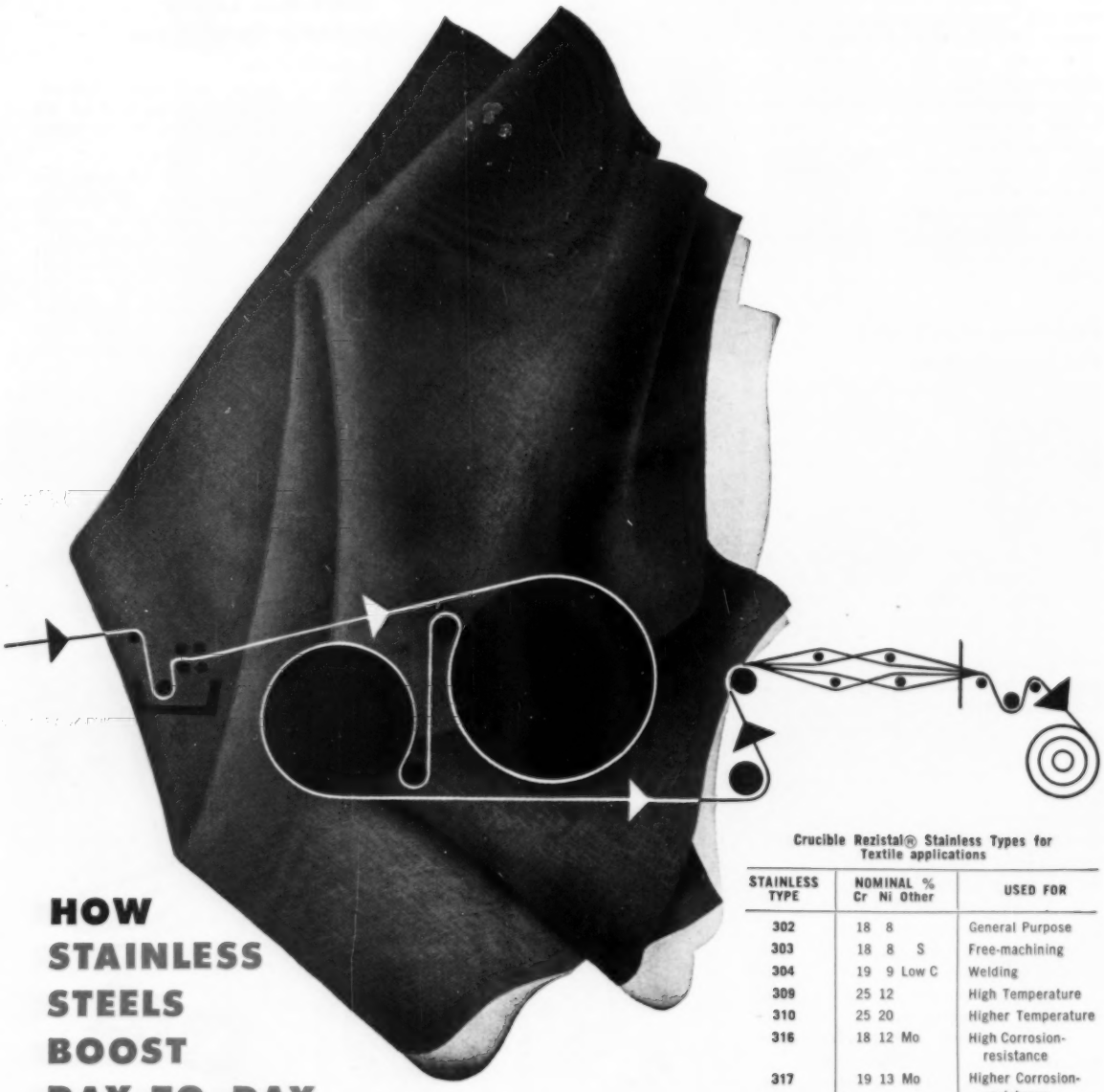
Technical Editor:

We feel that we could obtain 98% efficiency in weaving heavy yarns if we ran without drop wires. What do you think? (9945)

A mill might get 98% efficiency the first hour of operation. After that, mat-ups in the warp would drive your efficiency down and down. Besides, you couldn't expect anything but low-quality cloth.

If you need convincing, disconnect your warp stop motions on, say, eight looms and run production checks for a week.

For more information, write direct or use Reader-Service post card.



HOW STAINLESS STEELS BOOST DAY-TO-DAY SAVINGS in textile production

Crucible Rezistal® Stainless Types for Textile applications

STAINLESS TYPE	NOMINAL % Cr	Ni	Other	USED FOR
302	18	8		General Purpose
303	18	8	S	Free-machining
304	19	9	Low C	Welding
309	25	12		High Temperature
310	25	20		Higher Temperature
316	18	12	Mo	High Corrosion-resistance
317	19	13	Mo	Higher Corrosion-resistance
318	18	12	Mo, Cb	Welding (stabilized)
321	18	8	Ti	Welding (stabilized)
347	18	8	Cb	Welding (stabilized)

To plant and mill operators, stainless steel is not a luxury metal—but the most economical construction material they can use wherever there's need for its exceptional corrosion-resistance, strength and cleaning ease.

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See how stainless steel can boost day-to-day savings in your plant. Get practical, economy-minded advice on stainless selection, fabrication and maintenance in your free copy of "Making the Most of Stainless Steels in the Textile Industry." Send for it today. Or call your local Crucible representative. *Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 22, Pa.*

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KINKS and SHORT-CUTS

Spinning-Tape Repair Procedure Saves Money

A routine check of power consumption in one mill's spinning room showed considerable variation. A major cause of the variation was traced to faulty spinning tapes. The mill decided to investigate the whole spinning-tape picture.

A study showed that the oilers did the taping twice each shift. The spinning frames were of several different gauges, which meant that the oilers had to cut different lengths of tapes for frames with different gauges.

All frames were taped at the same time, and the oilers cut tapes to fit each frame as they went along. For example, when an oiler was caught at the far end of the spinning room with a tape too long for a certain frame, he had to choose between going back to the supply room for the right cut or recutting the available tape on the spot. Naturally, he recut the tape in hand.

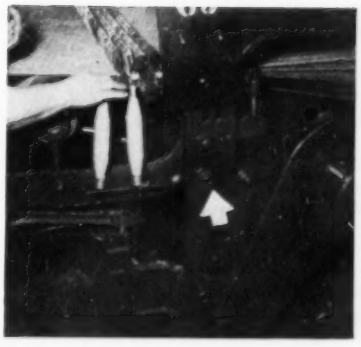
This haphazard cutting of tapes resulted in short tape life, excessive tape failures, ends down, out-of-tolerance twist variations, production loss, and power loss.

The overseer could not police each oiler to see that he repaired tapes properly. Instead, the overseer set up a system whereby all tapes were cut according to precise measurements by one experienced man. The precut tapes were stored at full length in open shelves, which permitted them to condition in spinning-room atmosphere. Separate shelves were used for different lengths of tape.

Instructions were then issued for each oiler to tape only one gauge of frame at a time. The oilers were issued only one length of tape at a time, and the section men were held responsible for enforcing the procedure.

When the oiler completed taping a certain gauge of frame, he returned to the supply area for tapes designed to fit another gauge. The procedure was repeated until all frames were taped.

The new system required more walking by the oilers, but it assured the overseer that each frame would be fitted with the proper length of tape. Results were savings in tape and power costs, and yarn quality improved immediately. (K-2883) *Mal Bowden, Thomaston, Ga.*



Stands on Loomsides Hold End-Ties for Warps

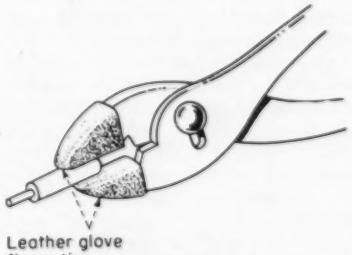
Since Crompton & Knowles W-3-AC looms have no arch, there's no place to put end-tie yarn so that weavers can reach it easily. We did not want to spoil the unbroken view across our weave room with a wire or rod over the warp; and, as a result, we had a problem of finding a place to put the end-ties.

We have designed neat little stands to hold the end-ties. A stand is made from a 12-in. section of 1¼x¼-in. flat iron. A ¼-in. hole is bored in one end of the stand to bolt it to the loomside. The iron is given a half twist near the hole.

Two ¼-in. holes are bored on a 3-in. center beginning at the other end of the iron. Two bolts are fastened through the ¼-in. holes with two nuts on each bolt. Then the bolt heads are sawed off.

One of the stands is bolted to the loomside near the drop-wires at each end of the loom. A filling bobbin of each color of yarn run in the warp is set on the cut-off bolts (arrow).

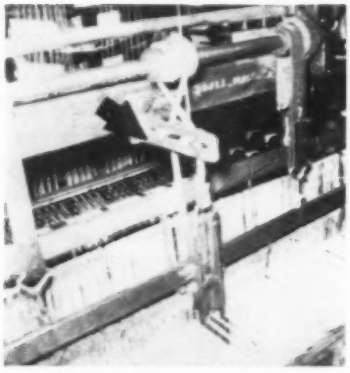
Weavers can easily and quickly pull off a piece of yarn and tie it to broken warp ends. (K-2697) *Eugene P. Schremp, Bristol, R. I.*

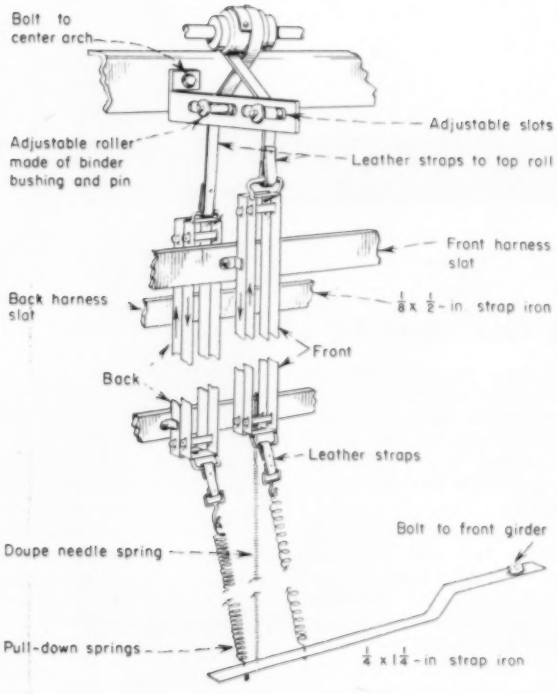


Pad Pliers With Old Glove Fingers

Polished- or soft-metal pieces that have to be handled with pliers need protection from scratching and crushing. An easy way to safeguard the parts is to cut two fingertips from a pair of old leather gloves and slip them over the jaws of the pliers. You can then handle delicate metal parts without harming them.

The glove method is quicker and less cumbersome than wrapping cloth or rubber around the parts. (K-2854) *W. F. Schaphorst, Newark, N. J.*





Leno Selvage Motion Prevents Raveled Cloth

Here at Chase Bag Co., we used to have trouble with the selvages raveling out of our bagging material when we split the cloth in the center. We weave the cloth double-width in the loom, and a knife splits the cloth as it is woven over the breastbeam.

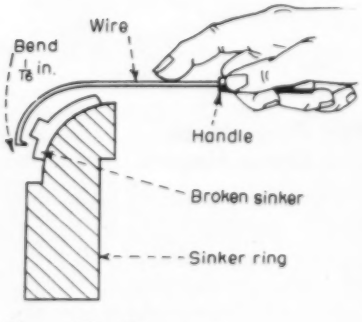
To keep the selvages from unraveling, we added a leno motion to make leno selvages in the center of the cloth. The motion is made from regular doupe heddles and a frame. The frame is made from ⅛x½-in. strap iron.

Leno harnesses Nos. 2 and 4 are screwed to the regular harnesses with 1-in. wood screws. The regular harnesses are part of the roll-top cam-harness motion. There are only two regular harnesses, and each harness contains two rows of heddles.

An extra set of harness rolls is mounted in the center of the regular harness-roll shaft. The Nos. 1 and 3 leno harnesses are operated from the extra set of rolls. The harness straps holding the leno harnesses are mounted on the extra set of rolls in the opposite direction from the direction of the regular harness straps. The bottoms of the leno harnesses are pulled down with dobby-harness pull-down springs.

A 4-in. section of 1x⅛-in. strap iron is slotted in the center to hold two small rollers. This section of strap iron is welded to a short piece of strap iron, which is bolted to the center of the loom arch. The small rollers are adjusted in the slot to align the leno doups properly, as shown by the arrow in the picture.

Now the double-width cloth is cut as it is woven, and the leno selvages stay put. (K-2711) *Blaine R. Tubbs, Goshen, Ind.*



How To Remove Broken Sinkers

When sinkers break on our Komet hosiery machines and the broken part is too far back to grasp with pliers, we sometimes remove the part with a strong magnet. If the sinker is too stiff for the magnet to pull out, we use a small tool that easily does the job.

The tool is made from a wooden handle 2 ins. long and ½ in. in diameter and a piece of wire 3 ins. long. A hook about 1/16 in. long is bent at one end of the wire, and the other end of the wire is pushed into the wooden handle. The hook end of the wire is bent about 1 in. from the end to match the contour of the sinker ring.

To remove a broken sinker, raise the sinker cams and remove the sinker next to the broken one. Run the wire down the empty slot alongside the broken sinker, fit the hook under the butt of the sinker, and pull it out. (K-2858) *James Lavoie, Chelsea, Que.*

Larger Screw Unnecessary With Cotton-Stuffed Hole

Occasionally, a screw becomes loose because the hole gets larger. In a race plate, for example, a larger screw is undesirable; also, the right-size screw may not be available.

To use the same screw, soak a few ravelings from the edges of a cotton wiping cloth in glue, and force the mass into the hole with a small nail. Insert the screw before the glue has hardened. Threads will be formed in the cotton packing; and after the glue has set, the screw will hold securely. (K-2831) *Albert Frantz, Berwick, Pa.*

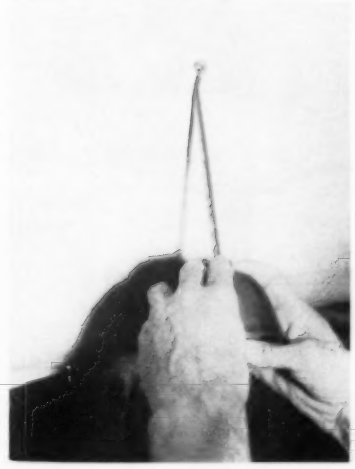
Best-Kink Award for December

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answers in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best kink for December, according to TEXTILE WORLD reader-judges, was:

"How To Make and Use a Change-Gear Calculator"



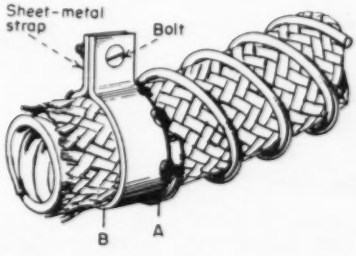
Bar Soldered to Oil Cup Removes Oil from Cloth

We wash oil spots out of several styles of cotton print cloth in our cloth room. About the handiest way to apply the soap solution to the oil spots is with a hand oil cup. You just squeeze the bottom of the cup, and the solution is placed at any position on the cloth in any amount desired.

After we applied the soap to the oil spot, we formerly used a small wooden paddle to rub the cloth. But recently we found a better way to do the job.

Now, we solder a ¼-in.-square piece of key steel to the end of the oil-can spout. The solution is squirted out the same old way, and the soldered metal is used to rub the oil spot. The paddle isn't used any more. Since the rubbing operation starts as soon as the solution is squirted out, we save a little time on each oil spot removed from cloth.

For the solution, we use one part of a soap-base liquid diluted with three parts of water. (K-2815) *Rufus A. Handback, Clinton, S. C.*

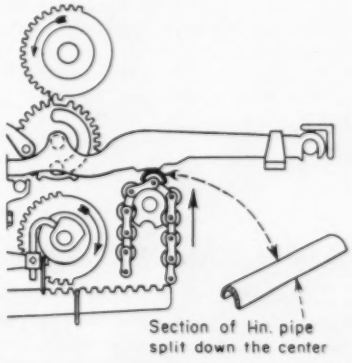


Clamp on Conduit Prevents Unraveling

Here's an easy way to keep the ends of flexible-metal conduits from unraveling.

Around the conduit, wrap a strap of sheet metal twice as long as the circumference of the conduit. Bend the ends of the strap, as shown, and insert a bolt into holes that have been drilled in the ends. Tighten the bolt to pull the strap close to the conduit. Then solder the strap to the conduit at point A. Cut off the conduit at *B*, and sweat down the clamp.

Now, you have a nonraveling conduit. (K-2837) *W. E. Warner, Essex, England*



Remove Vibrator Comb With Aid of Iron Pipe

Removing a vibrator comb from a loom head usually takes about 2½ hrs. because all the vibrators must be taken out. The job can be done in a very few minutes by the use of a split pipe to hold the chain in place.

Split a length of 1-in. iron pipe down the center, and place one piece of the pipe over the chain, as shown in the sketch. Then turn the chain until the chain and pipe are under the vibrators. The vibrator comb can then be slipped out and replaced (K-2786) *Owen E. Stinnett, Jamestown, N. Y.*

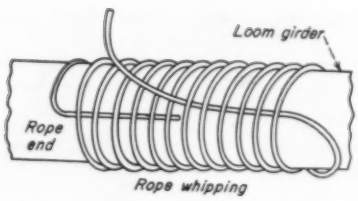
Windshield Tint Cools Spinning Room

Spinning frames located near windows in one mill started giving trouble after the machinery was modernized and larger motors with additional horsepower were installed. Ends down on these frames jumped from normal to 23 more per thousand spindle hours than the room average. None of the spinners wanted to run that set of frames.

A study of the situation showed that the bad-running frames received the full strength of the sun's rays through the windows during certain hours of the day. Temperature went up, and humidity went down. It was not feasible to revamp the humidifying system at the time.

The overseer solved the problem by tinting the windows with automobile windshield spray. Almost immediately, the temperature in that area of the room dropped 8° F. and ends down returned to normal.

The mill estimates $100 per year was saved by increased production on those frames near the windows; and the operators no longer object to running that set of frames. (K-2881) *Mal Bowden, Thomaston, Ga.*



Tips on the Care Of Rope Let-offs

Although automatic let-offs have made rope-and-weight let-offs obsolete, many mills still use ropes for friction on top beams and on novelty fabrics.

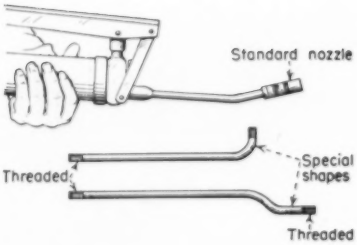
It's often hard to fasten the ropes so that they won't slip. Here are a few tips on rope care:

1. Use the cord-whipping method shown in the sketch to fasten the rope to the loom girder. The sketch shows the rope still loose; when friction is applied to the rope, the spiral wind becomes taut and the rope will not slip.

2. Make an eye in the rope end to fasten it to a beam stand or other small object. Nail the two parts of the rope together with two roofing nails, and clinch the nails. Then warp the lapped surfaces with friction tape.

3. Don't paint the beam flanges with stove polish or powder the flanges or ropes with graphite. These substances cause dirty cloth. Instead, use a powdered mica on the beam surfaces and the rope.

4. Separate the plies of rope around the beam to prevent sticking. When the ropes stick to the beam flange and turn loose, wavy cloth is made. Use a piece of leather or a short section of lead pipe to separate the turns of the rope. (K-2738) *Charles S. Bicksler, Lancaster, Pa.*



Homemade Nozzles Make Greasing Easier

To make it easier to grease hard-to-get-at places on our looms, we have constructed a number of different-shaped grease-gun nozzles of various lengths from copper and brass water pipe. We simply cut the length we want, thread both ends, and shape the pipe for a specific job. We have built up a substantial inventory of new nozzles this way. (K-2818) *Arthur Abbott, Berwick, Pa.*

Sheet Asbestos Makes Good Gaskets

Effective gaskets can easily be made from sheet asbestos. For example, to make a gasket for a pipe flange, lay the sheet on the flange surface and cut the bolt holes with a ball-peen hammer.

In general, though, better results are obtained by cutting the gasket to fit neatly inside the bolt circle, as with metal gaskets. Cover both sides of the gasket with graphite to help make the joint leakproof.

Sheet asbestos can also be used successfully on manhole plates. One thickness of sheet asbestos with graphite will keep the caps on water-tube boilers from leaking when they are not ground to fit.

Asbestos also makes excellent gaskets on engines, where it prevents cylinder oil and even steam or high-pressure gases from leaking through. (K-2855) *W. F. Schaphorst, Newark, N. J.*

$500 for Best Kink in 1956 - - - $25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

Send in your Kink now. There is always a contest going on.

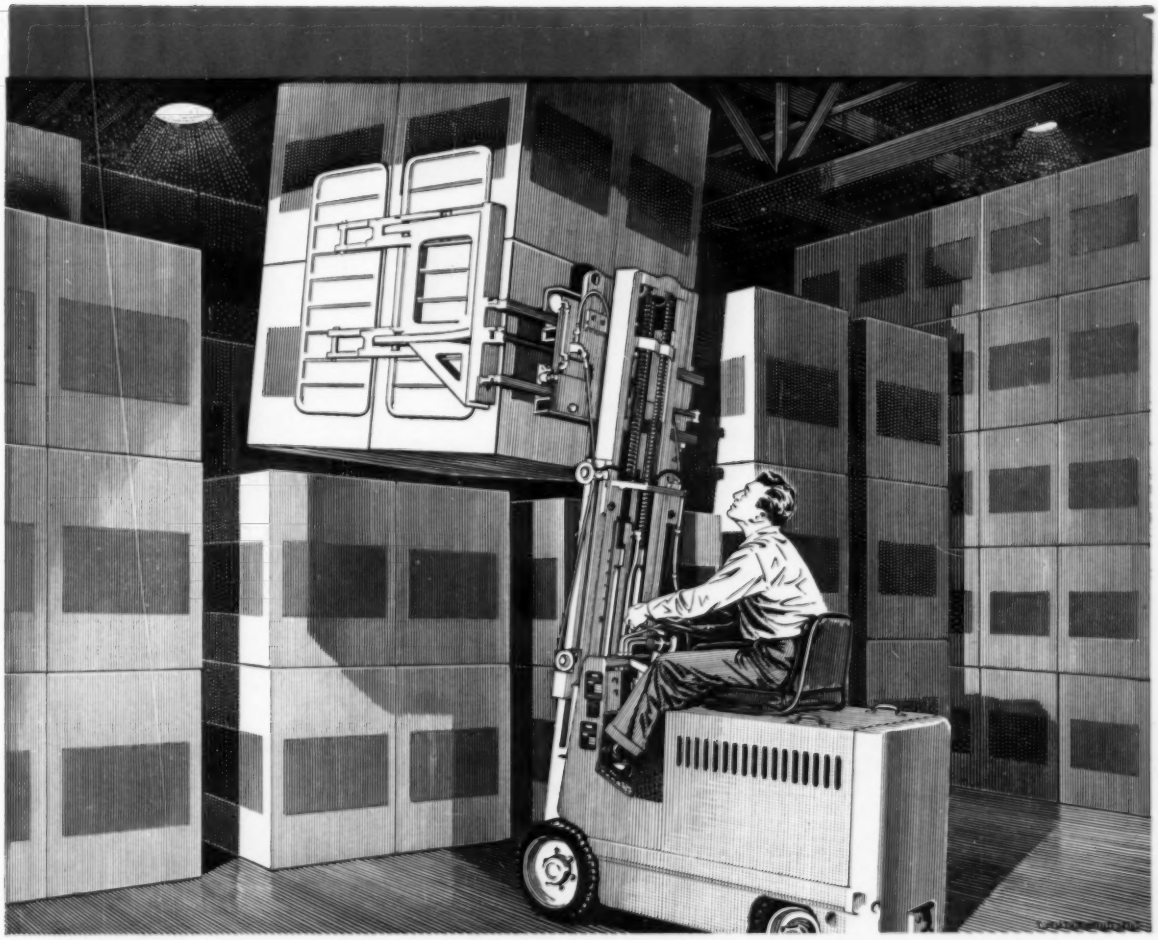
We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.

We like ideas for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1956.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kinks, and their decision will be final. In case of ties, duplicate prizes will be awarded.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.



THE SQUEEZE-PLAY IS ON

Gaylord Boxes

Rising costs are putting the squeeze on profits. One place to cut costs may be in your product packaging. A modern Gaylord corrugated box can speed packing, improve handling efficiency, reduce shipping costs and enhance customer appeal.

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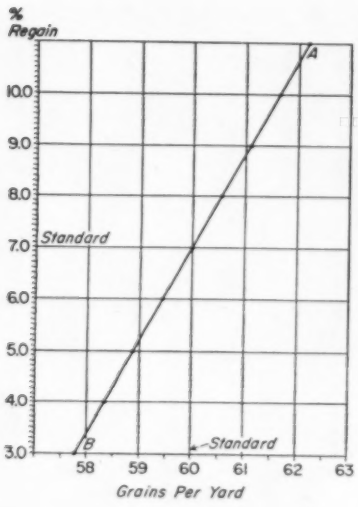


Make a Regain Chart To Correct Sliver Weights

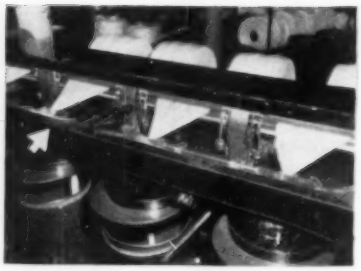
Standard sliver weights can be adjusted to actual moisture regain quickly and accurately without mathematical calculation by making and using a chart, as illustrated, based on the formula:

$$\text{Corrected standard weight} = \frac{\text{standard weight} \times (100 + \%\ \text{regain})}{100 + 7\%\ \text{standard regain}}$$

To lay out the chart, plot regain percentages in the vertical column and sliver weights across the horizontal base line. Standard for this chart is 7% regain for a 60-grain sliver.

Draw a straight line *AB* between the highest and lowest weight values through the point where a projection of the standard regain intersects with the standard sliver weight. This line locates all intermediate values.

To use, read left to right horizontally from the regain column to the diagonal line *AB* and then down to the base line to find the corrected sliver weight. (K-2789) *E. H. Helliwell, Newburyport, Mass.*



Revolving Clearer Cleans Sliver Trumpets

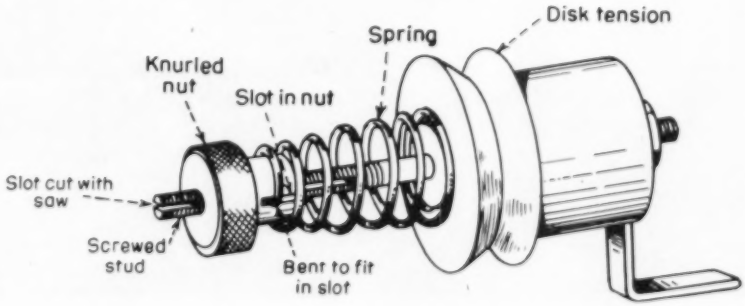
In our combed-yarn mill, we used to have trouble caused by lint and fly building up on the trumpets of our drawing frames. A stray current of air would occasionally blow this lint into the web and cause a thick place in the sliver.

We solved the problem by building in our shop some small revolving clearers that are attached to the drawing frame, as shown in the photograph.

The clearers, made of $\frac{1}{16}$-in. steel rod, are driven by a ratchet-and-paul arrangement from the rocker shaft at about 1 rpm. The rods are wrapped with felt that is glued on. Cleaning is appoximately every 2 hrs.

The delivery at the left of the photograph has no clearer, and the accumulation of lint (arrow) can be seen. There is relatively little lint in front of the two right trumpets, cleaned by the clearer.

This device was developed by Forest J. Campbell, general overseer of carding. (K-2772) *Clara Plant, Botany Mills, Inc., Gastonia, N. C.*



Yarn-Tension Spring Stays Put

We had trouble controlling adjustments on the yarn-tension nuts on our knitting machines. Machine vibration tended to shake these nuts loose; so we worked out a foolproof way of locking the nuts.

We sawed a $\frac{3}{4}$-in. slot down the center of the stud and a similar-width slot in the tension nut. The tension spring was bent to fit in the slots when they are lined up in the correct position for the desired tension on the yarn.

The slot prevents the spring from turning, and it positively locks the nut. No tools are needed to adjust the tension. The bent part of the spring is lifted from the slot, and the knurled tension nut is turned to relax or tighten tension on the disks. (K-2859) *A. C. Grasham, Dayton, Tenn.*

Save Time in Knitting Samples

During the sampling period, we used to spend a lot of time changing machines to produce as many samples and color combinations as possible. Now, we save a lot of time and use less-skilled workers to produce a number of our samples.

The machines that produce the samples have a number tag below each yarn-cone holder. These numbers correspond to the feed numbers and are arranged in systematic order around the yarn stand. Yarn is delivered to the knitting machine on a portable rack. Each position on the rack is numbered to correspond with a feed. The yarn clerk places cones on the rack according to the pattern sheet placed on the rack by the designer.

The knitting-machine operator then matches the cones with their respective feeds. This method is valuable to us where many different color combinations are required with the same basic pattern, and we can get more samples in less time. (K-2807)

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"PCB" is specifically recommended when brine is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct or naphthol dyes. ("PCB" brine also can be used effectively in your water softener.)

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Roving Cycle System Saves $6,900 Annually

For years, we laid out roving jobs by styles and hank rovings. We counted each frame as a certain percentage of the job and added up enough frames to make a 100% job. These roving jobs would include as many as 64 to 70 frames.

During routine checks on all our jobs, we found that our roving was being laid up on each frame two to four times in each 8 hrs. Each roving hauler would catch up his job, constantly patrol it, and replace any roving that might be used during the day—sometimes as often as four times during the shift. True, he was leaving his job in extra good shape, but he was only laying up approximately 7,000 lbs. in 8 hrs.

Obviously, something was wrong; and when we began to get into the job and study it, we soon found the trouble.

To begin with, we figured from the roving running time in the creels approximately how many bobbins were creeled during an 8-hr. shift; then we figured just how many frames a man could lay up by servicing each frame only one time per 8-hr. shift.

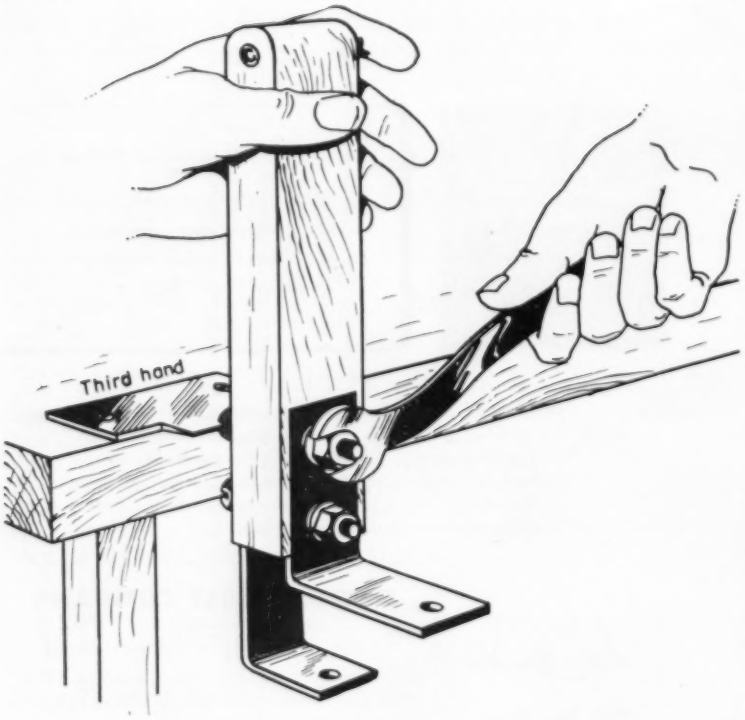
We then had a man try out our new method of laying up roving, which called for him to lay up each frame one time per day. He covered not 64 frames but 148.

Now, the roving hauler's job is simplified in that he is required to work only 50 mins. of each hour and rest 10 mins., up to the seventh hour of the shift. The last hour is spent taking down empty bobbins.

The roving man has been put on a cycle basis in the same way a doffer is on a cycle. He has his starting frame and his home frame; he does not worry about frames behind him running out of roving; he is making 80 mins. rest per 8 hrs.; and—most important—he is laying up approximately 11,000 lbs. in 8 hrs.

On coarser yarns, we found it necessary to set up our cycle at 4 hrs. in order to keep roving on the frames.

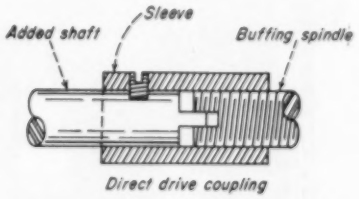
The important point is that by rearranging our roving jobs we were able to eliminate three roving haulers and save $6,900 annually. The roving haulers like the new arrangement, too. (K-2830) *Louis P. Scarboro, Trion, Ga.*



Screw Holder Serves As Third Hand

How often have you had to have someone help you hold a screw driver on some piece of work while you held the work in one hand and the wrench in the other?

Make yourself a flat sheet-steel device, shaped as shown, attach it to the edge of the work bench—and you have a third hand. Just place the screw slot over the edge of the plate and you're in business. (K-2884) *Chas. H. Willey, Penacook, N. H.*



Keep Abrasives Out of Buffing-Machine Motor

My buffing machine has a small emery wheel and drill chuck on the right-hand side and a wire wheel for removing rust on the other side. Sanding dust, grit, and rust used to get into the motor and cause trouble. To keep the abrasive dust away from the motor, I added a length of shaft between the motor shaft and the buffing spindle, as illustrated, and find that the longer shaft helps greatly. Here's how to do it:

Cut a $\frac{1}{8}$-in. slot $\frac{1}{4}$ in. deep in the end of the buffing spindle and make a tongue on the added shaft to fit the slot. Cover the joint with a sleeve coupling, and secure the coupling to the added shaft only. Align the motor shaft and buffing spindle both ways.

This arrangement allows the motor shaft to float while the buffing disk does not. Very little grit now gets into the motor. (K-2756) *Walter A. Simond, Essex Junction, Vt.*

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TEXTILE MACHINERY

High-draft spinner—For making yarns directly from card sliver. Draft up to 700. Handles most fibers up to 3 ins. Edward S. Rudnick. (F-1)

Full-fashioned knitter—For sweaters, built in 10, 12, and 13 sections, three to five yarn carriers, several gauges. Bulletin No. 20. Bearing Products Co. (F-2)

Sewing machine—For dress goods. Up to 5,000 stitches per min. single stitch. Rapid acceleration. Form No. 1263MT (854). Singer Sewing Machine Co. (F-3)

Sewing machine—For continuous or intermittent gathering; elastic lock stitching; up to 5,000 stitches per min. Form No. 1178MT (652). Singer Sewing Machine Co. (F-4)

Weave-room machinery — Warpers, creels, beamers for modern weave rooms. Kensington Works. (F-5)

Double-doffer garnett—Has 20- and 30-in. main cylinder, 11-in. fancy. Handles 400 to 500 lbs. per hr. Bulletin 401. Proctor & Schwartz. (F-6)

Open-side calender—For cotton, synthetics. Made in rolling, Schreiner or friction models, pneumatic loading, roller bearings. Bulletin T-103. McKiernan-Terry Corp. (F-7)

Sewing machines—Four top-roll-feed models for lockstitching, accommodating many weights of fabric. Union Special Machine Co. (F-8)

Raw-stock dryer—For cotton, rayon. Produces 1,600 to 1,800 lbs. per hr. Bulletin 203. Proctor & Schwartz. (F-9)

Shrinking machine — For sponging plants, cutters. Steams, brushes, sponges, and cools in one run. Mawaco Machine Co. (F-10)

SUPPLIES AND CHEMICALS

Rigid polyethylene—For piping liquids, gases, molding purposes. Chemical Div., Koppers Co. (F-11)

Tin compounds—For resin catalysis, stabilization. Organic products of tin, antimony, and zirconium described in Bulletin C197R. Metal & Thermit Co. (F-12)

Laboratory supplies—Condensed catalog of items new since 1952. Supplement to Cat. No. 111. Fisher Scientific Co. (F-13)

Solvent-recovery system—Operated by activated carbon. Form 4410D. Carbide & Carbon Chemicals Co. (F-14)

Lubricants—Made from molybdenum disulfide for extreme loads at various temperatures. Bulletin 103A. Alpha Molykote Co. (F-15)

pH meter—Battery-operated model for plants, laboratories. Temperature compensator. Convertible to a.c. Bulletin 118. Photovolt Corp. (F-16)

Midget still—For small-volume, high-purity distilled-water production. Bulletin 912. Precision Scientific Co. (F-17)

Rust preventives — From petroleum bases, for protecting shipments or stored machines. Vol. 41, No. 6. Texas Co. (F-18)

Application of lubricants — Devices, methods, data on proper machine lubrication. Vol. 41, No. 5. Texas Co. (F-19)

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Modern oils—For modern combustion engines. Causes of wear, recommended practices. Vol. 41, No. 10. Texas Co. (F-20)

ENGINEERING & MAINTENANCE

Floor underlay—For preparing sub floors for final cover. Organic and inorganic products. Camp Co., Inc. (F-21)

Boiler-tube corrosion—How to avoid it. Causes, prevention discussed in Bulletin TR-537. Babcock & Wilcox. (F-22)

Specialty steels—In various forms for the engineer and maintenance man. Described in 32-page brochure. Carpenter Steel Co. (F-23)

Industrial fuses and oilers—Described in Cat. No. 55. Trico Fuse Mfg. Co. (F-24)

Radiant heaters—For industrial purposes. Fused-quartz type, in 500- to 20,000-w. capacity. Bulletin 100. Cleveland Process Co. (F-25)

Washroom maintenance—For industry. Daily and weekly schedules laid out in manual from Huntington Laboratories, Inc. (F-26)

Water softeners—For small industrial and commercial use. Capacities from 38,000 to 400,000 grains. Industrial Filter & Pump Mfg. Co. (F-27)

Direct-coupled pumps—Made to suit liquids to be pumped. Capacities to 2,500 gals. per min. Bulletin 52B6083C. Allis-Chalmers Mfg. Co. (F-28)

Sealed miniature switch—For installations requiring vaporproof switching. Carries 30 v. d.c. at 2½ amps. Micro Switch. (F-29)

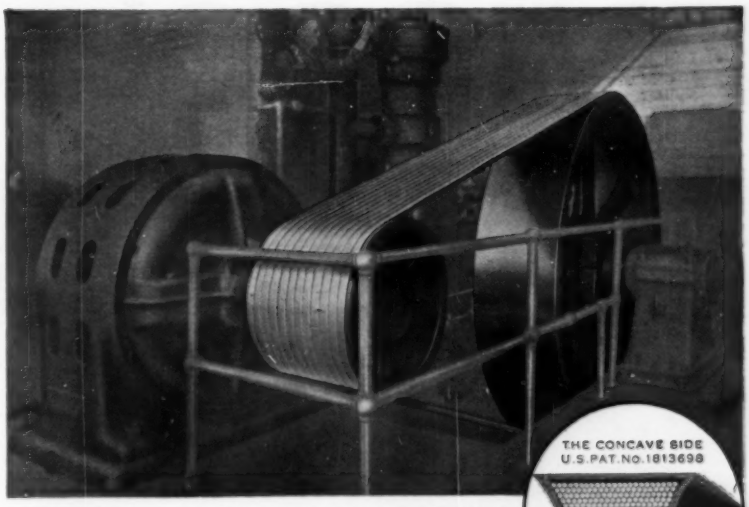
Alloy-seat valves—For heavy-duty, superior performance under unusual conditions. Lunkenheimer Co. (F-30)

Reciprocating boosters—For hydraulic systems. Air-operated devices in bores from 4 ins. to 14 ins. Miller Fluid Power Co. (F-31)

High-voltage distribution systems—For secondary networks in commercial buildings. Bulletin GEA-6223. Advertising & Sales Promotion, General Electric Co. (F-32)

Dry-type transformers—For indoor or outdoor installation. Single- and three-phase types. Bulletin 61B8222. Allis-Chalmers Mfg. Co. (F-33)

Centrifugal pumps—For high static heads, in single- and double-stage designs. Bulletin 350-38. American Marsh Pumps, Inc. (F-34)



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Simply bend a Gates belt and feel the sides. Notice how these precisely engineered concave sides *fill out* on the bend and *become straight.* Thus a Gates belt grips the sheave groove evenly (Fig. 1-A) and wear is distributed uniformly across each side of the belt. That means longer belt life; lower costs.

Make the same test with a straight-sided belt (Fig. 2) and see what happens. The sides bulge out on the bend (Fig. 2-A) concentrating the wear at points shown by arrows.

To assure longer wear and keep belt costs down, specify the V-belt with concave sides—Gates Vulco Rope . . . readily available from nearby distributor stocks. The Gates Rubber Company, Denver, Colorado —*World's Largest Maker of V-Belts.*

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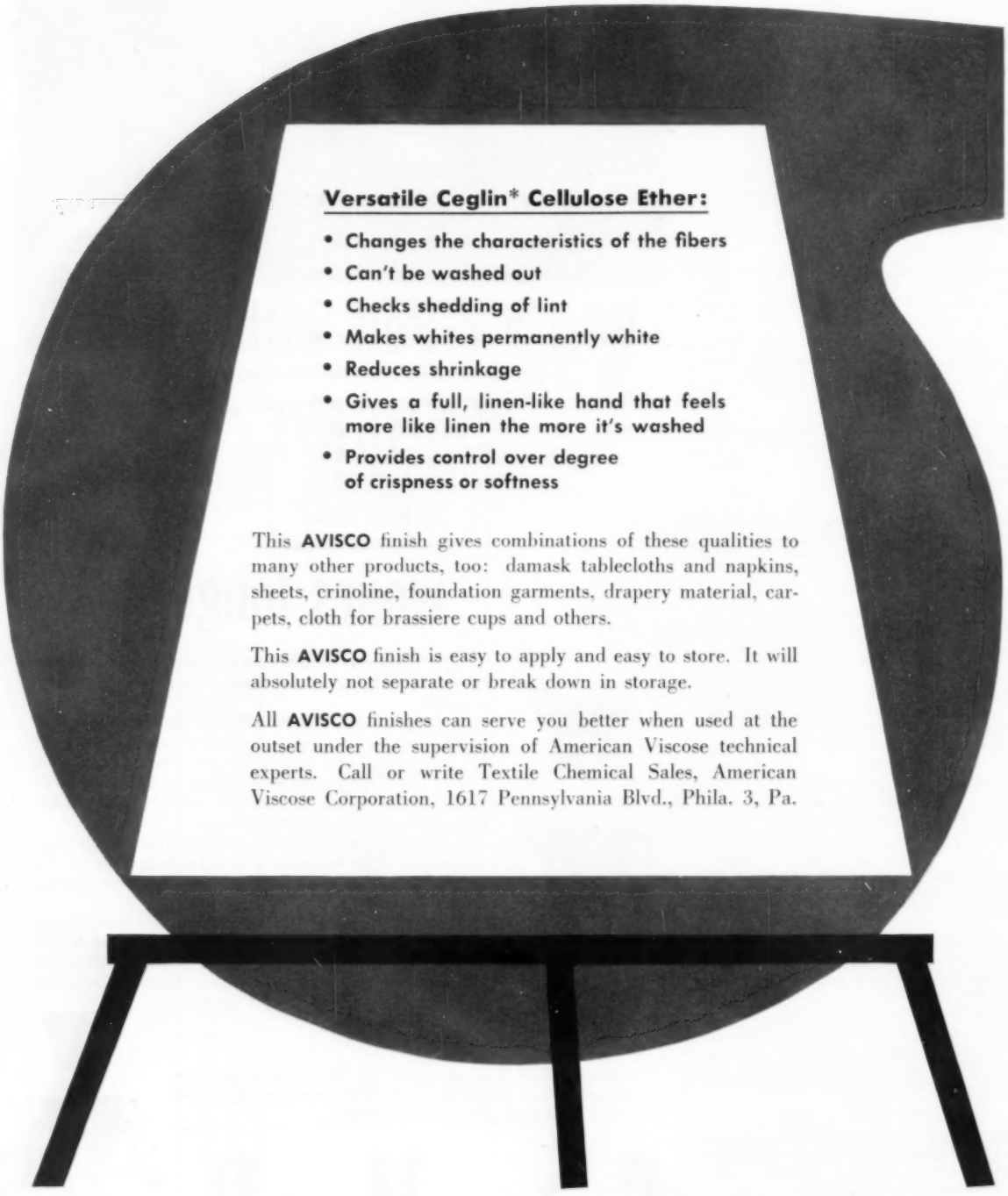
AVISCO* finishes add



Versatile Ceglin* Cellulose Ether:

- **Changes the characteristics of the fibers**
- **Can't be washed out**
- **Checks shedding of lint**
- **Makes whites permanently white**
- **Reduces shrinkage**
- **Gives a full, linen-like hand that feels more like linen the more it's washed**
- **Provides control over degree of crispness or softness**

This **AVISCO** finish gives combinations of these qualities to many other products, too: damask tablecloths and napkins, sheets, crinoline, foundation garments, drapery material, carpets, cloth for brassiere cups and others.

This **AVISCO** finish is easy to apply and easy to store. It will absolutely not separate or break down in storage.

All **AVISCO** finishes can serve you better when used at the outset under the supervision of American Viscose technical experts. Call or write Textile Chemical Sales, American Viscose Corporation, 1617 Pennsylvania Blvd., Phila. 3, Pa.

GROW WITH AVISCO*

sales appeal to cotton textiles

*Avisco and Ceglin are trademarks of the American Viscose Corporation

TEXTILE CHEMICALS

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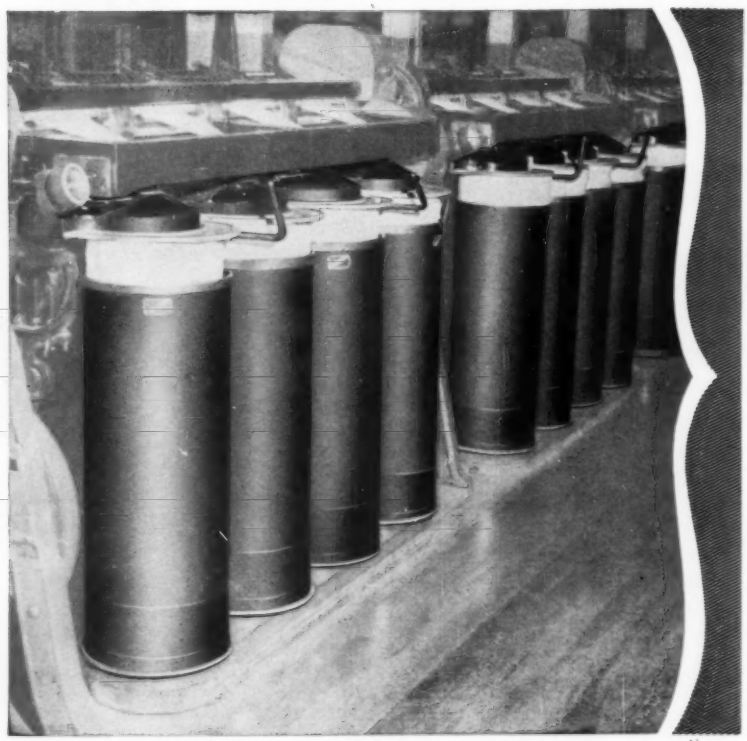


HOW SOUTHERN STATES COMPLETE COILERS AND CONVERSION UNITS CUT CARD ROOM OPERATING COST

Mill case histories prove over and over that Southern States coiler conversions pay for themselves in less than a year!

Adding up to lower operating costs and savings you can see are—larger cans with increased capacity . . . renewed life of old coilers, longer life of new coilers . . . lower maintenance costs . . . smaller parts inventories . . . simplified, more efficient handling . . . plus improved quality.

Recognizing that each mill is faced with different problems, Southern States has produced the most complete line of coiler and coiler conversion units available to the industry. Thus, regardless of sliver handling methods, or condition of existing equipment, Southern States makes it possible for your mill to enjoy all the advantages of larger cans at a price you can afford.

Complete details are in our Bulletin 201, which we'll send on your request. Better still, let our representative show how Southern States conversions can cut your card room costs.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

For more information, write direct or use Reader-Service post card.

NEW LITERATURE Continued

Sheet-rubber packing—For gaskets in water, steam, or air service. Supplied in ⅛ to 2-in. thicknesses. Dept. 4201E, Boston Woven Hose & Rubber Co. (F-35)

Indicating and recording instruments—For generating stations, laboratories, industrial use. Bulletin F-5608-1, Wheelco Instruments Div., Barber-Colman Co. (F-36)

Horizontal duplex steam pump—Offers economical operation and oil-free exhaust. Bulletin 230. Warren Steam Pump Co., Inc. (F-37)

Robot operation—For doors, gates, other closures. Electrically operated. Form SDM. Robot Appliances, Inc. (F-38)

Thermocouple connectors — Special construction eliminates reversing of polarity. Spec. sheet 56. Minneapolis-Honeywell Regulator Co., Industrial Div. (F-39)

Corrosion-resistant pipe—For transporting corrosive materials. Two types of pipe described in bulletin from Alloy Tube Div., Carpenter Steel Co. (F-40)

GENERAL

Invention of the sewing machine—Traces the history of these machines back to 1790. Booklet from Singer Sewing Machine Co., Dept. TW-99. (F-41)

Pneumatic standards—For guidance in installation and maintenance of compressed-air systems. Miller Fluid Power Co. (F-42)

Mop truck—Available in galvanized or stainless steel. 56-gal. capacity. Recessed wheels. Finnell System, Inc. (F-43)

Industrial casters—Swivel, stationary models. Various types of tires to suit conditions. Darnell Corp. Ltd. (F-44)

Packaging and loading guide—How to prepare packages and how to load them for safe shipping. Signode Steel Strapping Co. (F-45)

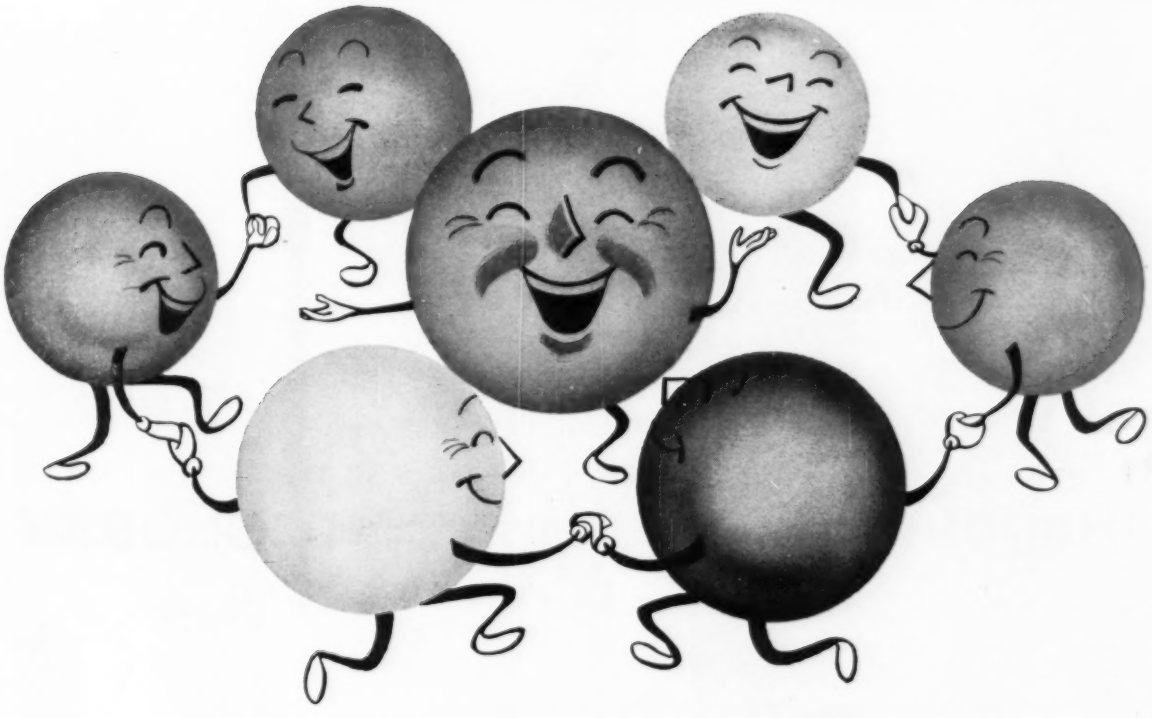
Conveyor belts—For greasy or acidic materials, as well as usual purposes. Fabric specially woven for belts. B. F. Goodrich Co. (F-46)

Power strapping machines—For cartons, boxes, bundles. 1,000 straps per hr. Bulletin SPD119. Signode Steel Strapping Co. (F-47)

Car pullers—Vertical or horizontal capstans, 10,000-lb. pull. Bulletin 753. Stephens-Adamson. (F-48)

Truck-selection guide—How to select a lift truck to suit your purposes. Forms 1406 and 1411. Hyster Co. (F-49)

Textile instrumentation—Several testing machines described in a folder from Brush Electronics. (F-50)



Cozy Chemical!

When it comes to getting along in the chemical world, Chlorine is one of the leading "mixers," with the ability to step in among so many tight little molecular groupings. In some cases, Chlorine just nudges in among the atoms and makes room for itself. In others, it gets a little rougher, chasing away some atoms completely and preparing the way for the introduction of still other chemical pals.

This reactivity of Chlorine is the key to its diversified uses and to its inestimable value in the field of synthetic organic chemistry. Thousands of chemical processes are dependent upon Chlorine and its power to establish favorable conditions within a molecular structure for the manufacture of the end products desired.

Columbia-Southern, one of the nation's leading producers of Chlorine, has widespread facilities for serving industry from its plants in Barberton, Ohio; New Martinsville, West Virginia; Corpus Christi, Texas; Lake Charles, La.

CHLORINE IS ESSENTIAL TO A MULTIPLICITY OF PRODUCTS

Many of the refinements of our civilization are dependent upon Chlorine, from its original uses in the bleaching of textiles and paper, and for its germicidal protection of water supplies and other public health applications, down to such modern products as plastics, synthetic rubber, solvents, vitamins, the new wonder drugs, high-test gasolines, non-toxic refrigerants, dyes, herbicides, insecticides and innumerable chemicals and chemical intermediates.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

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IN CANADA: Standard Chemical Limited and its Commercial Chemicals Division

CHLORINE, ALKALIES AND RELATED PRODUCTS · OFFICES IN PRINCIPAL CITIES

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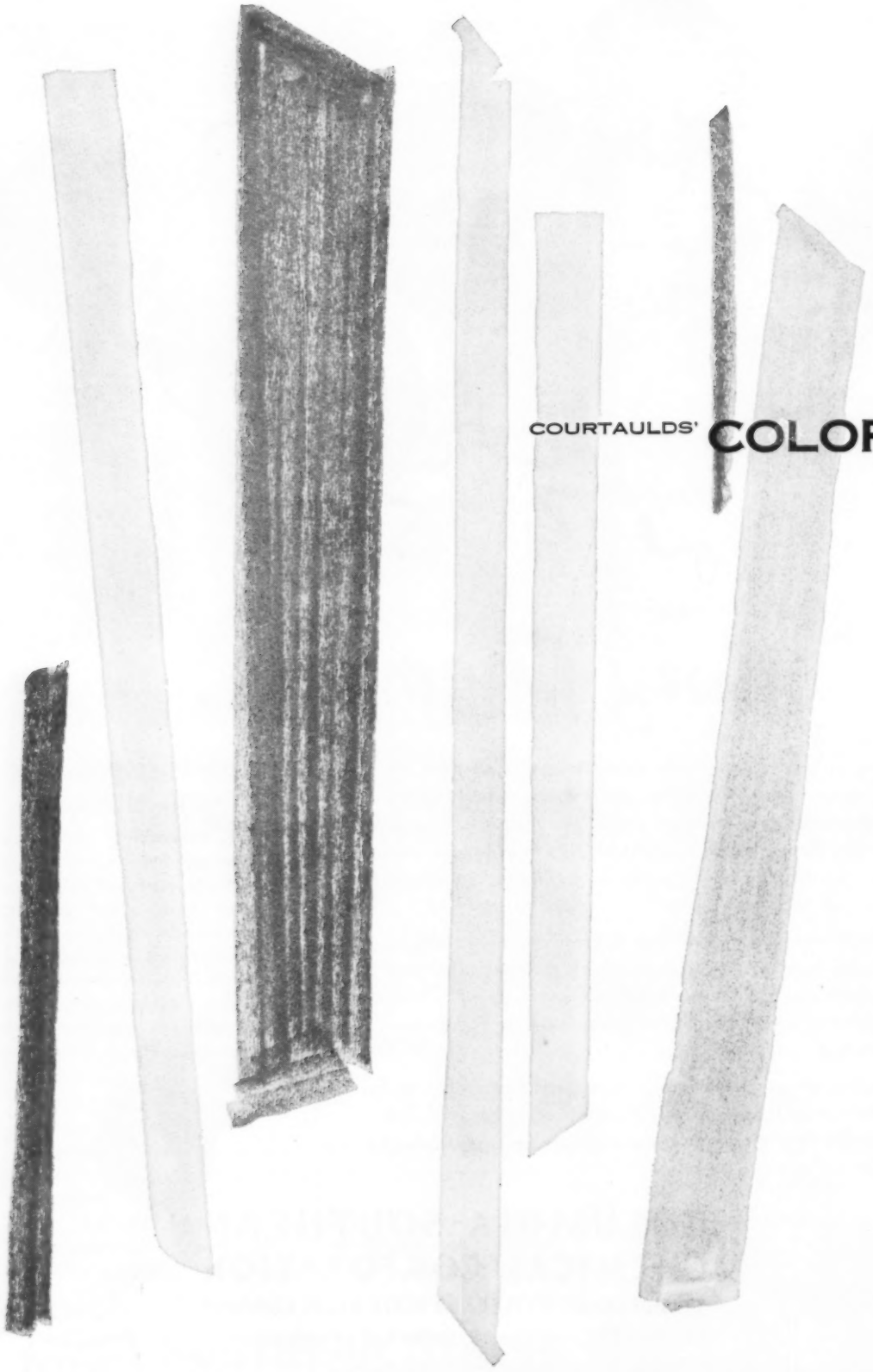

COURTAULDS' COLORAY

8 Coloray colors resist fading—
even after 500 test hours
in direct tropical sunlight...

and there's no rating high enough
to describe so much colorfastness!

BREAKS THE *colorfastness* BARRIER!

No other range of textile colors—anytime—anywhere—have been known to come close to Coloray's remarkable performance in blazing South Florida sunlight.

After 500 hours of exposure—still no effect on Coloray turquoise, peacock blue, terra cotta, tan, medium brown, silver grey, slate grey and black. Other "colorfast" colors claim *superior* light-fastness after only 80 hours of sun exposure without fading. And here is light-fastness over 6 times better!

That's typical of the phenomenal fastness of all 19 Coloray colors . . . a range that rockets safely into the 160, 320 and now 500-hour exposures. The sound reason for these spectacular results is: Coloray colors are not superficially dyed, but solution-dyed. Meaning the color is caged inside the fiber as the fiber forms! That's why Coloray colors have a deep-down beauty that adds dollars to the appearance of merchandise.

That's why you can count on Coloray colors to break the *sales* barrier in *your* business!

Results of Tests on Coloray Conducted by South Florida Test Service

Color	Hours of Exposure (Under Glass)	Ratings*	Hours of Exposure (Direct Weathering)	Ratings*
Black	500	*	500	*
Slate Grey	500	*	500	*
Silver Grey	500	*	500	*
Tan	500	*	500	*
Peacock Blue	500	*	500	*
Turquoise	500	*	500	*
Terra Cotta	500	*	500	*
Medium Brown	500	*	500	*
Hunter Green	320	L8	320	L8
Dark Blue	320	L8	160	L7

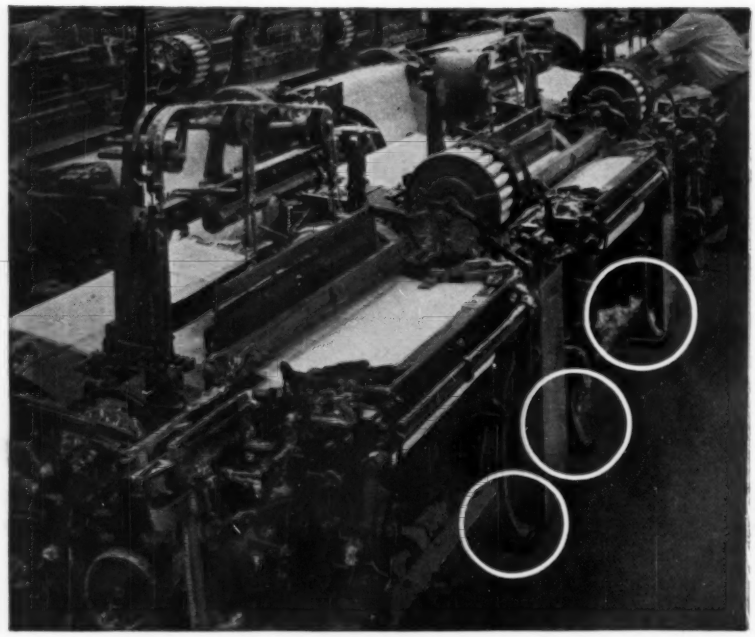
Color	Hours of Exposure (Under Glass)	Ratings*	Hours of Exposure (Direct Weathering)	Ratings*
Malachite Green	320	L8	160	L7
Indian Yellow	320	L8	160	L7
Red	320	L8	140	L7
Dark Brown	160	L7	160	L7
Sulphur Yellow	160	L7	160	L7
Medium Blue	160	L7	80	L6
Apple Green	160	L7	80	L6
Pink	160	L7	80	L6
Light Blue	80	L6	80	L6

*American Association of Textile Chemists and Colorists. No rating yet established to cover more than 320 hours.

Courtaulds' rayon fiber with Captive Color..."*can't escape!*"

For further information, write:

COURTAULDS (ALABAMA) INC. *First name in man-made fibers, first name in solution-dyeing*
600 FIFTH AVENUE, NEW YORK 20 • Greensboro, N. C. • Le Moyne Plant, Mobile, Ala.



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WITH
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ADHESIVE-COATED FELT MOUNTS

✣ Pre-applied on both sides. Peel off protective backing and Westsorb pad is ready for use (no cement necessary). Sticks firmly to any dry surface, will NOT SLIP. NO BOLTS needed.

Move your equipment when necessary – quickly – without drilling holes – with Westsorb felt mounts. They eliminate floor damage, prolong machine life, absorb vibration and reduce noise, saving many times their cost.

Write today for free Westsorb sample and descriptive folder.

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MANUFACTURERS AND CUTTERS OF WOOL FELTS

BOOK REVIEWS

HISTORY OF HOSIERY, by Milton N. Grass; Fairchild Publications, Inc., Business Book Div., 7 E. 12th St., New York 3, N. Y.; 275 pages, $5.75.

This book traces the historical origins of hosiery, from primitive foot coverings and leggings to modern stretch socks and stockings. Machinery development also is covered, from the invention of the frame-work machine in England to today's modern machinery.

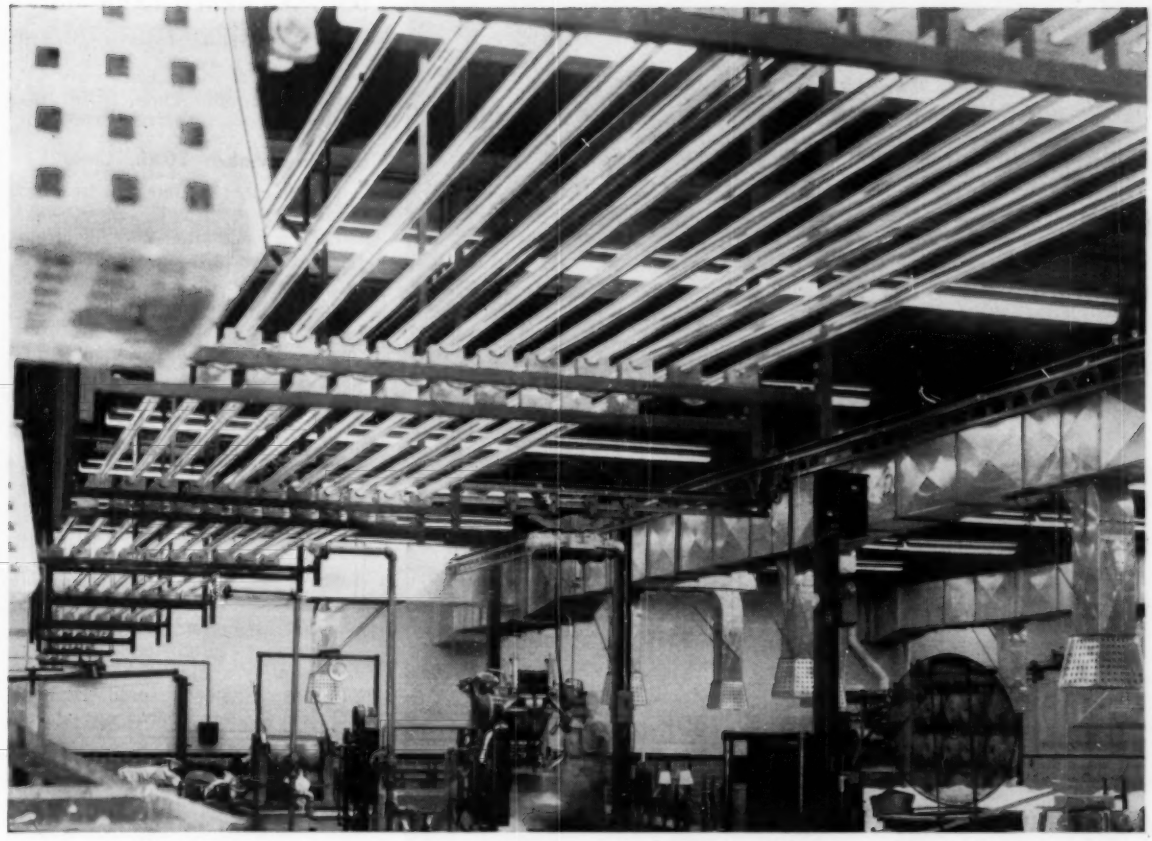
The book should give those interested in hosiery and hosiery manufacture insight into the position of the industry today and data with which to forecast developments in the future.

MACHINE DESIGN, by Paul H. Black; McGraw-Hill Book Co., 330 W. 42nd St., New York 36, N. Y.; 475 pages, $7.50.

Nonmechanical engineers will be particularly interested in the revised edition of this reference. It is designed to give the reader the necessary information on the design and selection of units of power transmission. Practical design applications are emphasized rather than academic analysis.

THE BIG BUSINESS EXECUTIVE: THE FACTORS THAT MADE HIM, 1900-1950, by Mabel Newcomer; Columbia University Press, Box 136, 2960 Broadway, New York 27, N. Y.; 164 pages, $4.

This book gives the background of today's big business executive and the apparent reasons for his appointment to a top position. To obtain this profile, the author presents side by side the management and biographical data of more than 95% of the presidents and board chairmen of our large nonfinancial corporations.



You may have to pipe corrosive dye stuffs and chemicals but you needn't put up with pipeline corrosion. Read what American Thread did.

Corrosion is out of this picture *because* PYREX® pipe is in it

These lines in American Thread Company's Sevier, N. C. plant handle corrosive dyes and chemicals.

Even after two years in this service, they look and perform like new, show no signs of corrosion.

They're made of a PYREX brand chemical resisting glass. No chemical bleach or dye stuffs will harm them. To illustrate its extreme corrosion resistance—you could run 5% hydrochloric acid at 212° F. through PYREX pipe for 203 years and still have two-thirds of the original wall thickness.

Besides being the most corrosion resistant pipe you can use, PYREX pipe gives you absolute protection against metal contamination.

And you can use the same lines interchangeably for any dye. To change over, simply flush the pipe with fresh hot water until the line *looks* clean (another advantage of glass—clear transparency). Then start the next run through.

Besides the savings you get by eliminating corrosion and in simplified cleaning, PYREX pipe is economical to install. Your own men can do it. The need for repair and replacement is practically nonexistent. Some lines have been in continuous service for over 20 years and are still as good as new.

Initial cost compares favorably with that for other corrosion resistant pipe materials that do not offer the advantage of glass.

If you would like to know more about the value of PYREX pipe in your plant, send for our Bulletin EA-1. The few minutes it takes to read it can bring you profits for years to come.

CORNING GLASS WORKS
72 Crystal Street, Corning, New York
Corning means research in Glass

CORNING GLASS WORKS, 72 Crystal Street, Corning, N. Y.
Please send me Bulletin EA-1 "PYREX brand Glass Pipe in the Process Industries."

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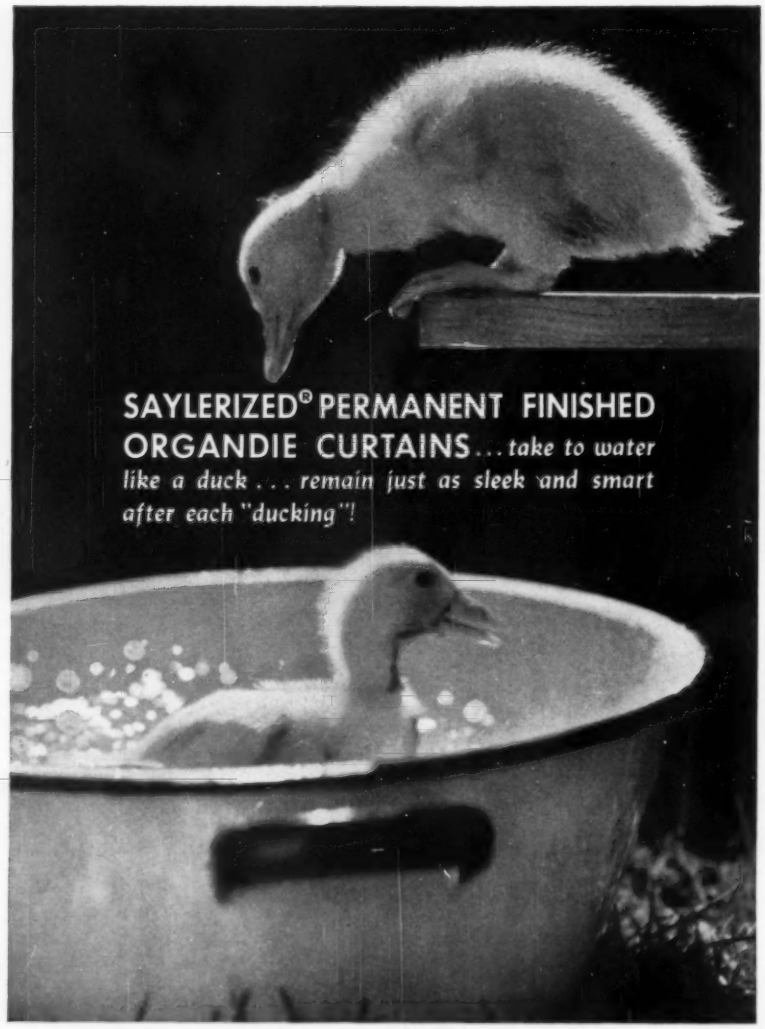
Company .....
Street .....
City ..... Zone ..... State .....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ORGANDIE CURTAINS... take to water
like a duck . . . remain just as sleek and smart
after each "ducking"!

WHY SAYLERIZED ORGANDIE CURTAINS ARE AMERICA'S FAVORITE

Because they're lovely, practical, and economical, Saylerized Permanent Finished Organdie Curtains are first choice of millions of women from coast to coast. Saylerized organdies launder to perfection with practically no care. No starching, no stretching required . . . they always remain rustling-crisp and new-looking, even in damp weather. Because they are free of sticky, dust-inviting starch, they actually repel soiling, require fewer launderings, wear much longer. Ideal for seashore cottage . . . country home . . . town house . . . or modern apartment . . . Saylerized Organdie Curtains are everything that women want for the window beautiful.

Sayles

SAYLES FINISHING PLANTS, INC.

Established 1847

SAYLESVILLE, RHODE ISLAND

New York Office: 70 W. 40th St.

DOUBLE-CARDED YARN

CONTINUED FROM PAGE 114

and speeds on the finisher cards are approximately the same as on the breakers.

Doubler Makes 20-in. Laps

After breaker carding, the sliver is put through a Saco-Lowell doubler, where it is made into a 20-in. lap from 42 ends. Two of these laps are placed on a finisher card, and the resulting 52-grain sliver is doubled 84 times. To secure even more-uniform sliver, alternate cards are started about 2 hrs. apart, which means further blending in the succeeding processes.

The yarns to be combed are put through 26 Whitin Model D4 and Model K combers, which make a 50-grain sliver from a 650-grain lap. The D4 combers operate at 98 nips per minute; the KS models run 110 nips per minute.

The drawing department has 60 deliveries each of Saco-Lowell breaker and finisher four-roll drawing. Both front and back drawing have 1⅛-in. steel front rolls and synthetic-covered top rolls. Front-roll speed is about 400 rpm. A 53-grain sliver is produced by the breakers; a 48-grain sliver is made by the finishers.

All roving frames are 9x4½ single-process machines. There are eight Saco-Lowell frames and 20 Whitin frames. The latter have the Inter-Draft four-roll system of drafting.

For 30s yarn, a 48-grain sliver is used to produce 3.0-hk. roving. Spindle speed is 1,000 rpm.; front-roll speed is 105 rpm.; draft is 16. To produce a 2.75-hk. roving, the front-roll speed is increased to 115 rpm., with the draft about 15½. Spindle speed remains the same.

Linn has 32,416 spinning spindles in the Landis plant and 7,000 spindles in its Concord plant. The latter plant was completely modernized in recent years, and the operations in the two units are basically the same.

Spinning Equipment

Spinning equipment in the Landis plant includes: 16 Saco-Lowell 252-spindle frames, 3¾-in. gauge, 2-in. rings; 32 Whitin 264-spindle frames, 3¾-in. gauge, 2-in. rings; 36 Whitin 276-spindle frames, 3¾-in. gauge, 2-in. rings; 11 Whitin 312-spindle frames, 3¾-in. gauge, 2⅛-in. rings; 22 Whitin 276-spindle frames, 4-in. gauge, 2¼-in. rings.

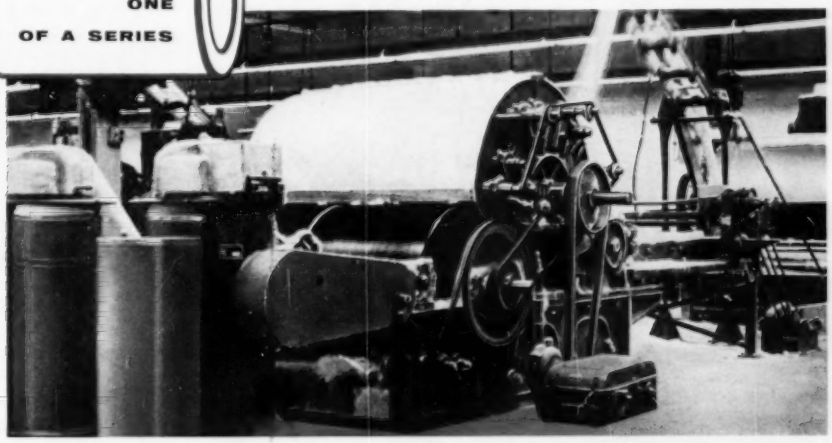
The Whitin Super-Draft system is in use on all the frames. However, 10 frames are to be equipped with Clean-Align drafting and Pneumafil.

The new CleanAlign drafting is expected to reduce cleaning and permit

TESTED WAYS TO ASSURE MORE PROFITABLE TEXTILE PRODUCTION

ONE OF A SERIES

HYATT ROLLER BEARINGS IMPROVE QUALITY OF YARN AND CLOTH



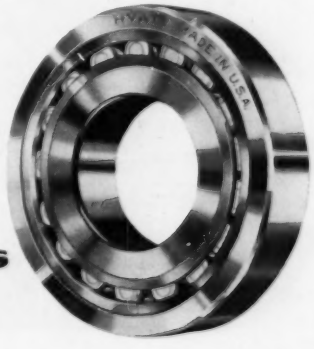
Proctor & Schwartz Model 670 Breaker Card and Model 671 Finisher equipped with HYATT Roller Bearings at Chatham Mfg. Co., Elkin, N. C.

In textiles, oldest of all major mechanized industries, the quality of the finished product depends very largely on the performance of the machinery used. It is axiomatic, of course, that *no* machine is better than its bearings. This is particularly true of complex automatic textile machinery where the maintenance of accurate settings is so vital.

For example, let's start right at the beginning with the carding operation. Uniform carding depends on the maintenance of critical cylinder, doffer and lickerin settings. These *cannot* be accurately maintained when fast-wearing plain bearings with excessive internal clearance allow too much "play."

One of the great advantages of HYATT Roller Bearings is the fact that they are *precision-built with extremely close tolerances.* Uniform sliver is far easier to produce on carding machines equipped with HYATTS because *critical settings stay put.*

Be sure to specify roller bearings by HYATT—pioneer in their application to the textile industry for years — when you modernize or replace *any* of your machines. For further details on the profitable application of HYATT Roller Bearings to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey. Remember, HYATT leads the field in textile bearing know-how.



NO TEXTILE MACHINE IS BETTER THAN ITS BEARINGS!

HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER

Beetle-lite* Fiberglas Trucks Will Not Dent—Crack—Scratch Rust—Rot Snag

None of the usual . . . or the unusual . . . mill hazards will impair the looks or the efficiency of a Beetle-lite Fiberglas Truck. Strong continuous top and bottom steel reinforcements, completely enclosed heavy seamless molded Fiberglas body, make it practically indestructible. Color is molded in, thus eliminating the need for painting. Satin-smooth finish will not scratch and hence cannot snag. Beetle-lite is impervious to all dyes and chemicals used in mills.

Beetle-lite Trucks will save you money in any part of your mill. Made in 9 sizes, with or without drain bottoms. Write for full information today.

*Beetle-lite is the exclusive property of the Beetle Boat Co. and Beetle-lite trucks, doff and tote boxes, vats, crocks and tubs are sold exclusively to the textile trade in the United States and Canada by W. D. Dodenhoff Co., Inc.

W. D. DODENHOFF CO
INCORPORATED
GREENVILLE, SOUTH CAROLINA

increased work assignments of more than 36%. For example, rolls that now are picked once a day will be picked once every three weeks on the new frames. Cap bars and saddles are eliminated, and little oiling is required.

Doffing Time, 7½ Hrs.

The present frames use a 3.0-hk. roving to make a 30s yarn. Draft is 20, twist multiplier is 3.30, and front-roll speed is 145 rpm. A 7-0 traveler is used. Top rolls are synthetic-covered; bottom rolls are steel. A 4-oz. bobbin is produced in about 7½ hrs.

Cones weighing 2½ and 3½ lbs. are made on Foster winders. If the yarn is to be plied, it is made into a 3½-lb. supply cone for the Foster Model 56 doubler that makes an 8-lb. tube. The doubler has an 8-in. traverse and usually runs three-ends-up. Some yarns are plied as much as six times into a 2-lb. package.

ENGINEERING PROBLEMS

CONTINUED FROM PAGE 108

ing the early part of the doff develops maximum yarn tension. Traveler angle on large packages should be as near 30° as practicable. If the bobbin diameter is half the ring size, the traveler angle is 30°. A larger bobbin diameter permits the use of a heavier traveler; the yarn is packed on tighter, and a denser package results.

Larger packages often require added tape tension to prevent slippage. Additional weight on the tensions helps; but it should be remembered that old, plain-bearing spindles were never built for large rings.

LIMITING FACTORS

CONTINUED FROM PAGE 108

the side rail is lowered. The cylinders also are lowered so that the tapes can be properly aligned with the spindle whorls. With the cylinders lowered, it is usually necessary to install a new jack-gear swing arm in the head end.

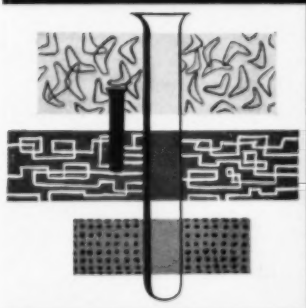
If the frame is not equipped with 10-in.-dia. cylinders mounted on anti-friction bearings, it is important to see that cylinder speed on the rebuilt frames is not excessive.

Lengthen Traverse Chain

The traverse chain is lengthened, and a larger-diameter pulley is added to accommodate the extra links. Counterbalance springs are normally applied at the foot end of the frame.

In some instances, a complete new builder motion is necessary; in other

Improve textile sizing, printing, finishing



OK Textile Starches assure you of quality cloth that stimulates sales and profits. This is true because of Hubinger's continuous laboratory research giving you the benefit of improved, up-to-the-minute additives, plus carefully controlled formulae uniformity. Always dependable, convenient to store and time-saving in use, OK Textile Starches provide an effective, economical means to improved sizing, printing and finishing. Try OK soon in your mill operations!

use

OK TEXTILE STARCHES

Need a tailor-made textile starch?

Any Hubinger representative will be pleased to place expert technical men and extensive laboratory facilities at your disposal. Remember, some of the industry's leading textile experts are on Hubinger's staff.

Contact the representative nearest you:

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(Phone: Franklin 6-5583)

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Carl F. Merritt
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(Phone: Greenville 2-0424)

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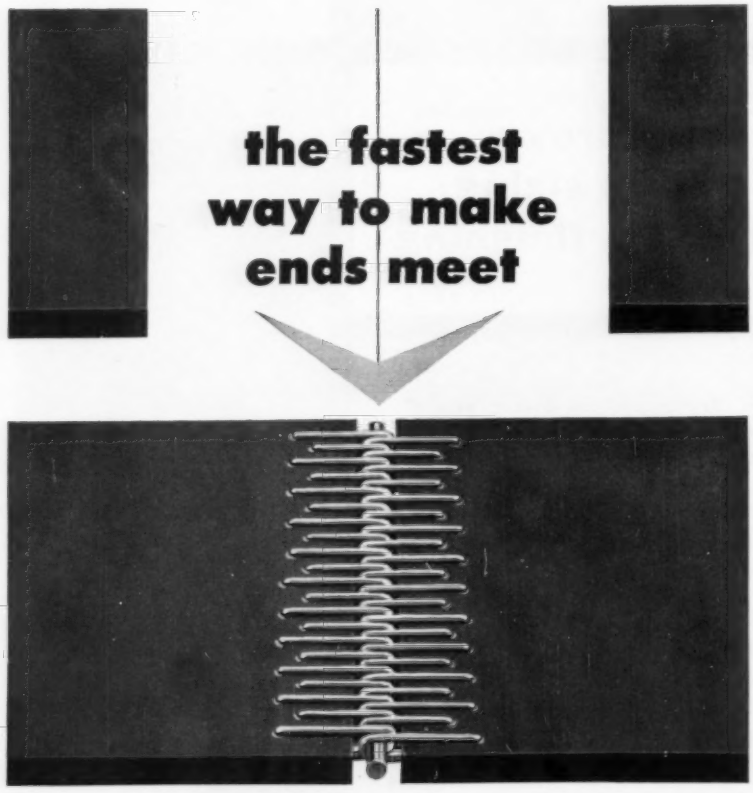
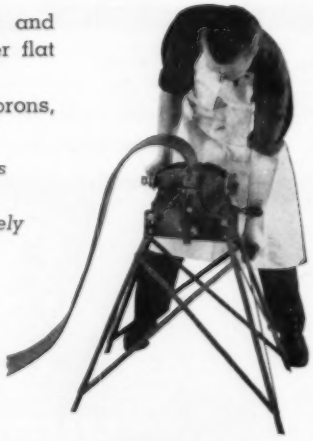


Clipper

HOOKS and LACERS

in materials handling, food harvesting and processing, power transmission, wherever flat ends must be joined.
Clipper belt lacing equipment for belts, aprons, tapes and ribbons!

- *produces secure, flexible joints in minutes*
- *does not injure belting*
- *gives smooth, flexible joint that rides freely over conveyor rollers*
- *is flexible both ways of the belt*



WRITE FOR FREE SAMPLE

Send a sample of your belting, apron or ribbon to Clipper with an outline of your problem. They'll determine the best method of fastening and then lace your sample FREE.

Ask your Industrial Distributor for Clipper Products

Clipper BELT LACER COMPANY

980 Front Ave., N. W., Grand Rapids 2, Michigan

instances, only a cam with a greater throw is needed.

In answer to questions, Mr. Rawlinson said: A steel tip on the top of the aluminum spindle reduces spindle wear; a large-diameter (0.745 in.) lifting rod is less likely to hang up because it has more surface and is stiffer. A spindle brake is desirable to protect the operators' hands.

ACRILAN-WOOL BLENDS

CONTINUED FROM PAGE 101

unions but also gives better colorfastness, better color value, and more reproducible shades. The process of transfer of dyestuff from wool to Acrilan assures level dyeing.

This same combination of dyeing assistants can also be used to correct unlevel dyeing obtained on Acrilan or Acrilan-wool blends by other methods.

Select Dyes for Process

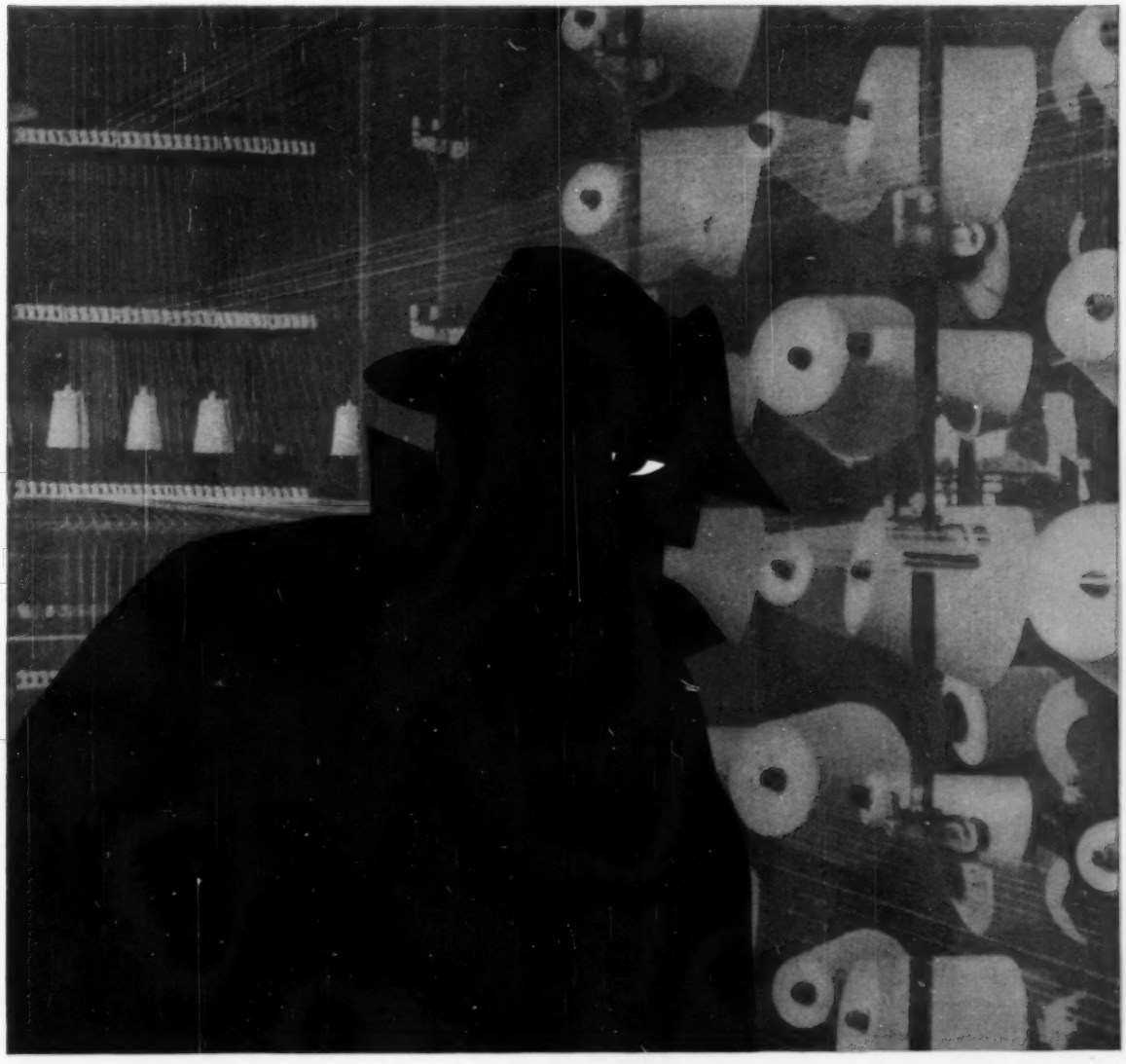
Because the success of this method of union-dyeing is dependent on the transfer of dyestuff from wool to Acrilan, it is related to the leveling ability of the dye on wool. The conditions of the dyebath in this process may be so different from that normally used in dyeing wool that the leveling properties of dyes on wool are not a certain criterion of their behavior in this procedure.

While neutral-dyeing colors generally level poorly on wool, some transfer quite rapidly by this method. Dyestuffs should be selected that transfer most rapidly by this method to minimize dyeing time. They should also be chosen to give the same shade on both fibers. In combinations, the dyestuffs should be chosen to have the same rate of transfer from wool to Acrilan, as well as the same dyeing rate. In that way, the shade builds up on tone on Acrilan during transfer as well as initially on wool.

Most Wool Dyes Suitable

The only class of wool dyes that so far have not proved amenable to this procedure is the newer neutral-dyeing premetallized dyestuffs. Applied according to manufacturers' recommendations, they dye only the surface of Acrilan. Modifications in the dyeing method to improve fiber penetration have impaired the colorfastness of these dyes.

From the other classes of wool dyes, the choice of colors is sufficient for a full range of shades from pastels to black. Dyestuffs have been evaluated not only for ease of application by this method but also for colorfastness, economy in production of certain shades, and suitability in mixtures.



DON'T SWINDLE YOUR SPINDLE

Don't swindle your spindle out of adequate lubrication in your search for a clear lubricant to eliminate staining problems.

A good lubricant must not only be clear, it must also minimize friction and hold down power consumption . . . for power already accounts for 10% of the average mill's product selling price.

Cities Service has the answer to both these requirements. Each of the seventeen specially tailored Cities Service Glade Oils have unsurpassed clearness and can actually reduce friction as much as 25%. In terms of mill profits, that's an added 2½%!

If you'd like to learn more of the many ways in which you profit with Cities Service Glade Oils, write Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

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Write today; ask for estimate of NEW savings now possible in your mill.

VERY LITTLE BUFFING is needed today to keep Exeter's historic floors bright. Mill was built shortly after War of 1812.

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CARD-FLAT GRINDING

CONTINUED FROM PAGE 99

an integral part of the cards and constantly checked and repaired. In many cases, poor lubrication of the bearings has caused excessive wear and thrown the grinding roll out of round. Such a drum grinds high and low spots on the flats; it causes poor carding and makes correct settings impossible.

The tension on the drum-grinder band must be carefully regulated. A slack belt that does not keep the grinder up to speed also causes high and low spots. On the other hand, a band that is too tight pulls the drum down on one side, where it causes the flat wire to be ground slightly shorter.

Usually the emery on the roll is replaced too often because the card grinder needs sharp emery for quick grinding to keep up with a heavy grinding schedule. Actually, the wire ends up smoother, with less metal removed, when the emery is old and somewhat smoothed by use. A No. 40 emery is recommended for card grinding; rougher emery may knock down the wire or cause shelling.

Set Grinder to Flats by Sound

Setting the drum grinder to the flats should follow a methodical routine. The best way is to set the drum to the flats with a 0.005-in. gauge across the card to assure an even starting point for the final setting. The grinder should then come down until it contacts the flats and a hissing sound is heard. Proper contact and the correct pressure are determined by experience.

In general, good grinding occurs when there is sufficient pressure to cause an occasional spark. The delicacy of the setting requires the grinder to use the same ear when he sets both sides of the card, and he should always stand in the same relative position.

There is a correct way to use adjustable screws and adjusting nuts. Lack of training and carelessless in handling these members causes poor settings and reduces the life of the parts.

Generally, too much pressure is applied to the nuts and screws. The nuts on the adjustable screws should always be reasonably tight and set so that they are pushing away from the part being set to. Most of the pressure should be applied to the nuts that prevent the two parts from shifting closer together. These nuts are called the off nuts.

Off Nut Prevents Damage

When an adjustment is made, the movable part should be set very close to the fixed part and then backed off to the proper gauged distance by tightening the off nut. The nuts on

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Stabilflo is an air-to-load, spring-to-lift diaphragm motor. Normally connected direct to top roll bearing without levers, it practically eliminates friction. No pressure seals or stuffing boxes. No air leakage. Easy to install. Typical installations have operated for 5 years without attention.

100 sq. in. motor diaphragm, with wide choice of totally-enclosed coil springs, permits roll loads from less than roll weight up to 10 tons.

Write for details on this and other sizes of Stabilflo Air Motors, and on other Foxboro Pneumatic Roll Loading Systems. **The Foxboro Company, 842 Neponset Ave., Foxboro, Massachusetts, U.S.A.**

*Trade Mark

Typical application of Foxboro Stabilflo Air Motor. Note splashproof design. Compact control panel delivers regulated air to Stabilflo Motor mounted at each end of roll . . . permits easy duplication of uniform loading at any time.

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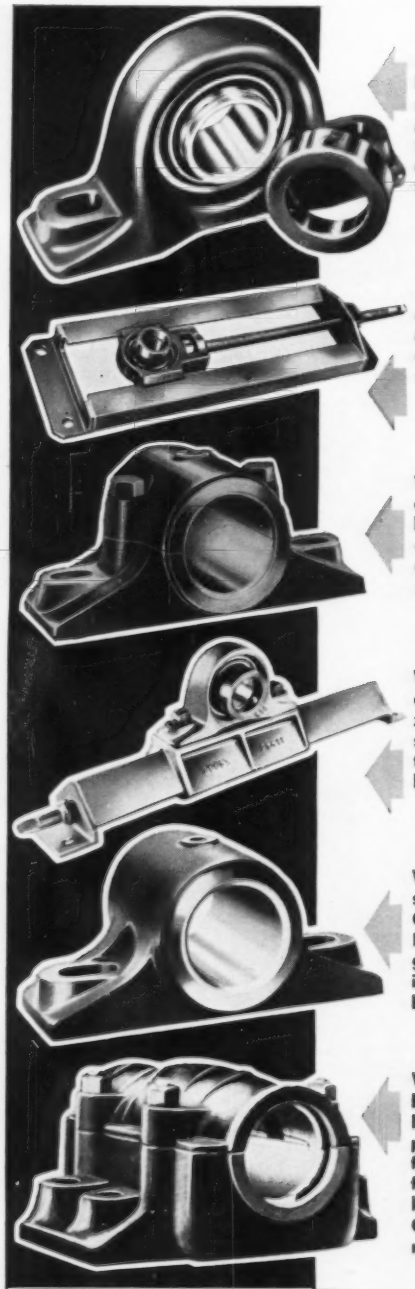

Wood's Life-Lube ball bearing pillow blocks — permanently lubricated — need no maintenance. Std. 200 Series MRC ball bearings — self aligning. Synthetic seal keeps lubricant in and dirt out. Available in sizes from ½" to 2 15/16".

Wood's style "T" take-up bearing is designed for wall mounting. Frame is made of welded structural steel and can be loaded in tension or compression. The bearing is self-aligning.

Wood's split Journal Bearings are designed for light or medium service but where replacement advantages of split design are desirable. Smooth contour, babbitted, finished to shaft size.

Wood's style "P" take-up bearing is of protected screw design for horizontal application. Made of welded structural steel it can be loaded in tension or compression and the bearing is self-aligning.

Wood's solid Journal Bearing — designed for light or medium service. Open end type babbitted bearings. Drilled and tapped to permit use of grease cups, grease fittings. Finished to shaft sizes, ends faced and bases ground.

Wood's ring oiling rigid Pillow Blocks—recommended for heavy main lineshaft or jackshaft service. Three piece construction. Oil reservoir sufficient for three months. Bearing surface true ball and socket. Permits liner to adjust self to shaft alignment. Can be made dust-proof or with recessed collars.

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the other side of the adjusting screw require a slight loosening to prevent a buildup of too much pressure.

This type of setting makes any shift pull the parts apart instead of pushing them together and prevents possible damage to the card by parts coming into physical contact.

After grinding, the flats must always be reset to the cylinder. To find possible high flats from one setting point to the other, each setting point should be checked with a number of flats in position.

When the flat at the back setting point is pulled up to the front, it should be stopped half-way between the front and second stands. This setting will always be the closest, especially when the cards have been used for many years. When the setting is too close at this point, it should be relieved by moving the second adjusting point from the front. The front stand should not be moved because the turning point of the flat over the top edge of the front plate controls the air currents around the cylinder.

The method of removing the flats and truing them on a card-flat grinding machine is open to question. Although this flat grinder will grind wire of equal height, the flats will not necessarily be positioned alike on the card.

If the flats cannot be ground correctly on the card, something is wrong with the flat-grinding stands. To remove the flats, grind them, and then replace them on a card with defective grinding stands only corrects the error until the next flat-grinding period.

LIGHTS

CONTINUED FROM PAGE 97

are mounted on the wall inside the mill. The narrow width of the mill makes this equipment layout as economical as using dry-type transformers inside the mill.

Power Source Is Broken Up

The first 25-kva. transformer supplies power to the picker room, opener room, and waste house through a 200-amp. safety switch. This lighting is controlled through an eight breaker-load center for the picker room and a 60-amp., 2-pole, 240-v. safety switch to the opener room and waste house.

The second 25-kva. transformer supplies the winder room. The circuits are controlled from a lighting panel board, 100-amp. main circuit breaker, and 18 20-amp. feeder breakers.

The first 50-kva. transformer supplies the spinning department. The

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RHOPLEX AC-33 is an acrylic resin emulsion which imparts excellent crock resistance when used as a binder for pigment dyeing and printing.

It also exhibits unusually high emulsion stability in storage and in application.

RHOPLEX AC-33 as a resin finish forms a crystal-like film which produces a firm, full hand of good durability.

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5 gal.	14"	diam.	9"	high
10 "	14"	"	16¼"	"
15 "	14"	"	24"	"
20 "	22⅜"	"	13"	"
25 "	22⅜"	"	16"	"
30 "	22⅜"	"	19"	"

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circuits are controlled from a lighting panel board, 200-amp. main circuit breaker, and 32 20-amp. feeder breakers.

The second 50-kva. transformer supplies the slubber, drawing, and carding departments. The circuits are controlled through another 200-amp. main-line circuit-breaker panel board with 32 20-amp. feeder breakers.

Lighting Follows Pattern

The lighting in the winding, spinning, slubber, and drawing departments is installed with the same spacing throughout. The luminaires are hung in different directions, however, depending on the way the machines are located; the luminaires are perpendicular to the rows of machines below.

There are 27 rows of luminaires spaced 12 ft. apart. Each row consists of nine luminaires; in each row, one new luminaire with two 90-w. tubes and one old luminaire with three 40-w. tubes are alternated. The spacing is 11 ft.; the height is 12 ft.

The luminaires are hung from the conduit with ½-in. conduit stems. One end of each fixture is supported with a Crouse-Hinds ALA or ALC fixture hanger. The other end is hung with a Crouse-Hinds CHS conduit clamp and a UNH flexible fixture hanger. With this arrangement, we had to cut the conduit only once for each luminaire.

Lamps Are Staggered

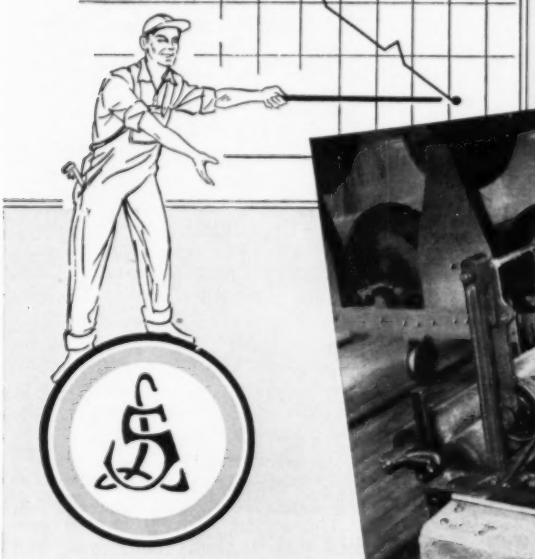
Lamps are staggered in the card room. The layout consists of seven old luminaires per row across the mill. Eight rows of lamps are placed 13 ft. apart. Adjacent rows are staggered with the luminaires out of line half a space. The luminaires are spaced 14 ft. apart and are mounted 14 ft. high. The first luminaire in the first row is 4 ft. 8 ins. from the wall; the first luminaire of the second row is 11 ft. 8 ins. from the wall. This spacing gives a uniform 10 ft.-c.

The picker-room lights are staggered, too. There are three rows. The outside rows are in line with each other, and the center row is out of line half a space. The rows are spaced 11 ft. apart; the luminaires in each row are spaced 14½ ft. apart.

Outlets Furnish Power

As the lighting was installed, duplex receptacle installations were made. A duplex outlet was installed on the outside columns at every fifth column line lengthwise of the mill. Any point within the mill can be reached with a 50-ft. extension cord. Receptacles are also installed at each water fountain, drink-vending machine, emergency

LOWER SLASHER ROLL MAINTENANCE...



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Now you can eliminate constant and costly maintenance of blanket-covered and yarn-wound slasher rolls. The seamless, graduated hardness rubber covering, specially developed for slasher use by Saco-Lowell and U. S. Rubber Co., permits the Multi-Duro Roll to operate satisfactorily for at least two years without buffing.

In addition, the Saco-Lowell Multi-Duro Slasher Roll helps produce superior quality warps because:

- the variable-hardness construction of the rubber permits a constant, even size application.
- A well rounded layer of size is applied on each end individually — shedding in the weave room is thereby minimized.
- Roll is made of special rubber, which, given reasonable care when not in use, will not harden, chip or form blisters at any time.
- There is no lateral seam to cause size roll marks on sunken places across the yarn sheet.
- Rebuffing is not required for at least two years if the roll is given normal use and care.

The Saco-Lowell Multi-Duro Slasher Roll is unquestionably the best slasher finisher roll available today. It is not a conventional roll — do not be misled into accepting a substitute. The Multi-Duro Roll leads to quality slashing and more efficient weaving. Continued evidence that it "Pays to Use Genuine Saco-Lowell Repair Parts".

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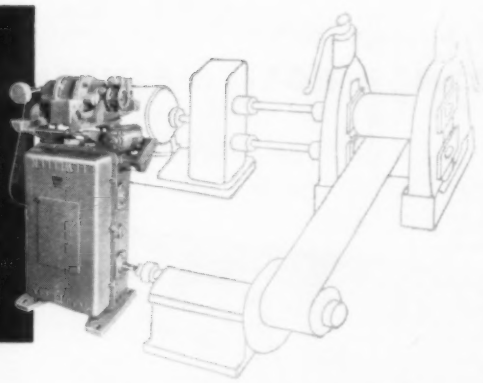

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light, and clock.

The receptacles are polarized outlets with U-shaped grounding slots. Each outlet is installed in a Crouse-Hinds FS condulet. The grounding lug is connected to the condulet, and each plug-circuit line is grounded to the sprinkler system. Ground clamps are used on the conduit and sprinkler line with No. 6 bare solid copper connecting the two clamps.

Yard Is Lighted

The mill-yard lighting system consists of 20 floodlights spaced around the edge of the mill roof 80 or 90 ft. apart. The lighting is a relay system; three of the mill lighting transformers and three relays supply power. The relays are three-pole combination magnetic starters with 110-v. coils. Each 30-amp. fused pole supplies two or three floodlights. This arrangement, of course, allows three separate circuits for each relay.

A photocell controls the system by energizing and de-energizing the coil of the first relay, which is located near the winder-department transformer.

The second relay is located near the spinning-room transformer, and its coil is energized by one of the floodlight circuits of the first relay. The third relay is located near the card-room transformer, and its coil is energized by the second relay. The lamps in the floodlights are 750-w. They give excellent yard lighting and also light the area beyond the fence.

Install Watchman's Lights

The watchman's circuit is separate from all other lighting. It has one relay that is controlled from a toggle switch in the machine shop. The circuit is a conduit line the full length of the mill with branches into the mill at vital spots. Fixtures hangers, Crouse-Hinds ALA or ALC, were installed every 60 ft. with a conduit stem running down to a die-cast weatherproof socket.

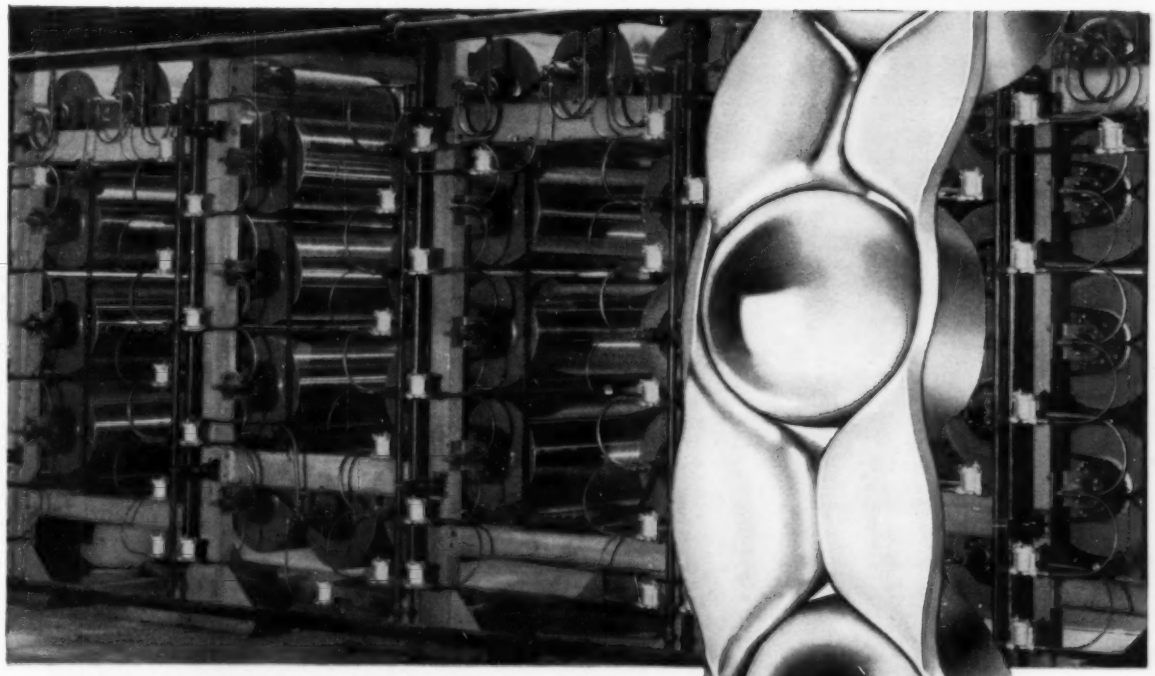
A 200-w. incandescent lamp with no reflector or cover is used in each socket. This lighting system gives the necessary light to illuminate the watchman's route throughout the mill. It eliminates lighting rows of mill lights at intervals.

SPINNING AT SCOTTDALE

CONTINUED FROM PAGE 100

the repaired underframe cleaners are tested. The efficiency of the repair room is attested by the number of cleaners in constant operation.

The frames also have overhead



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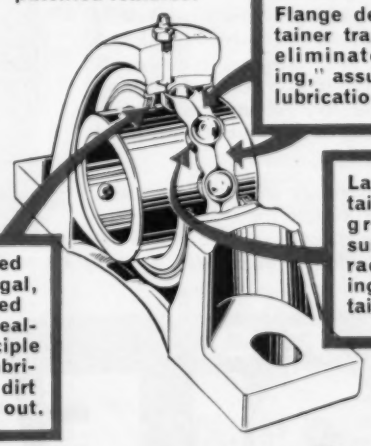
Write for your copy of Bulletin 454 containing the entire SEALMASTER quality story today!

Only SEALMASTER offers you these patented features!



Flange design of retainer traps grease—eliminates "churning," assuring proper lubrication of balls.

Land ridden retainer floats on ground inner surface of outer race—minimizing ball and retainer wear.

Patented centrifugal, felt-lined flinger sealing principle keeps lubricant in, dirt and dust out.

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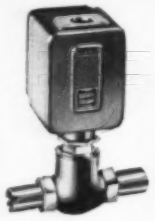

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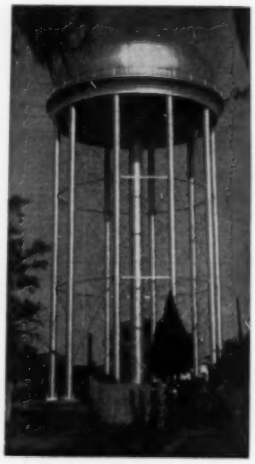

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cleaners. Umbrella-type creels give enough open areas for these cleaners to do their jobs. Roving packages on the warp frames are 12x6 and 10x5 ins. All frames have long-draft systems, Whitin for the most part.

A ceiling cleaner covers the entire ceiling area, where every point is blown every half-hour. The cleaner passes over a given point every 15 mins., and the head position is reversed every passage.

Ceiling Cleaners Cut Costs

So far, the ceiling has been blown down manually only once in the last five years. It is free of lint, and there has been an increase in yarn quality. The ceiling cleaner has saved the department from $75 to $100 weekly in cleaning costs.

For scheduling maintenance, Scottdale uses the Werner system. Steel rolls are cleaned from two to three times a year. Corduroy spindles are plumbed, aligned, and leveled, if necessary, at least once a year. Spindles producing osnaburg yarn are plumbed at least twice a year.

GOOD PACKAGE DYEING

CONTINUED FROM PAGE 113

for weights under 7,000 grains, another that handles quantities up to 16 oz., a third for amounts up to 5 lbs., and a large Toledo scale for amounts over 5 lbs. By careful weighing of dyes, the advantages of a closed system of dyeing with automatic controls are realized. Production is upped because fewer adds are needed when dyes are carefully weighed.

Drying Carefully Done

After dyeing, the loads are hoisted out of the kiers and transported by monorail to enclosed extractors where hot filtered air is blown through the packages from the outside in for 15 to 30 mins.; then the cycle is reversed for a similar time. The loads are then placed on a port dryer for about 4 hrs., and hot air is forced through the packages from inside out.

Finally, the yarn is transferred to Proctor & Schwartz tray dryers and all excess moisture is removed under controlled conditions of humidity. Steam sprays are turned on automatically to avoid overdrying if the air should get too dry. These dryers are also equipped with recorders to show time and temperature of each cycle.

The yarn is kept in a conditioning room after drying until ready for packing and shipping.

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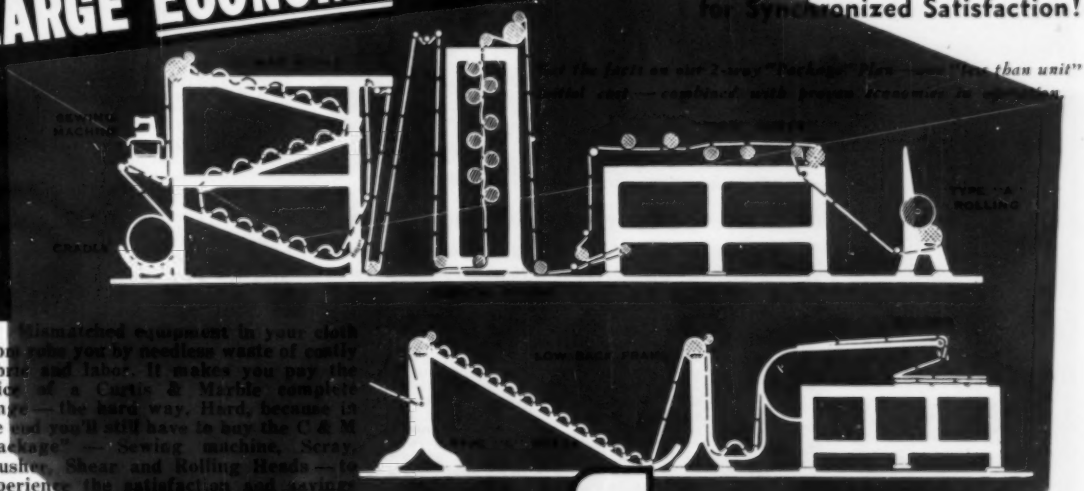

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WEAVING AT CHIQUOLA

CONTINUED FROM PAGE 111

The light tubes are replaced only at burn-outs. The weave room floors are wood, and they're hand-scrubbed with soap and water periodically.

Batteryhands use carts to handle filling. The filling comes to the weave rooms in chutes from the spinning room, which is overhead.

Warps are handled on hydraulic-lift hand trucks. The loom beams are 22 ins. in diameter and have 5-in. barrels. There's an average of 1,860 yds. on each loom beam.

Slasher Production Is High

Three two-cylinder slashers supply warps for all of Chiquola's looms. The slashers operate 120 to 124 hrs. per week; the weave room operates 132 hrs. Three men operate the three slashers and make the size.

Only one size formula is used: 125 gals. of thin-boiling starch; 6½ lbs. softener; 5 lbs. gum; water to finish the size at 127 gals.

The slashers have been remodeled, and ball bearings are used throughout the machines. They run at 40 to 50 yds. per min., depending on the weight of the warp. The size penetration is 14½%; moisture content is 7½%; and stretch is 1.3%.

YARN PRODUCTION

CONTINUED FROM PAGE 120

Drawing Cans

Three models of 18-in. fibre drawing cans were developed by National Vulcanized Fibre Co., Wilmington, Del. One model has an insert metal rim, one has a turned fibre top, and the other has a regular metal top. The cans are 36 or 42 ins. tall. **(A-244)**

Card-Flat-Chain Lubricator

Applicable to all major makes of cards, the M&J automatic card-flat-chain lubricator lubricates through felt pads that clean and lubricate at the same time. The device is distributed by Jarrell Bullard Co., Charlotte, N. C. **(A-245)**

Gear-Driven Spindle

A high-speed spindle for spinning and twisting was announced by Hispano Suiza, Geneva, Switzerland. The spindle is driven by a helical gear and worm.

The spindle is self-centering and is

For more information, write direct or use Reader-Service post card.

The news that SOLVAY is producing hydrogen peroxide in a new plant at Syracuse, N. Y. is of threefold importance to users of this product.

1. It provides a new dependable source of supply for material of top quality—SOLVAY quality.

2. It means that hydrogen peroxide can be purchased in mixed carload or mixed truckload lots with other SOLVAY products.

3. It makes available, without obligation, SOLVAY'S specialized, industry-wise Technical Service.

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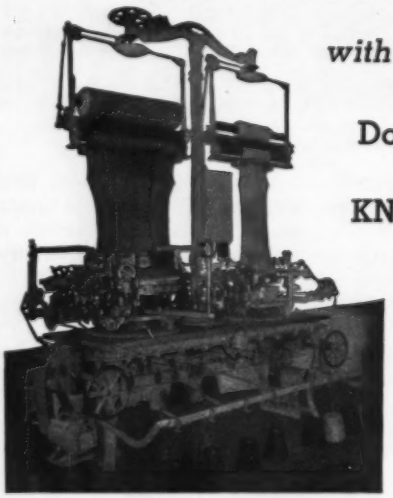

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protected from gear vibration and axial and radial thrust.

Yardage per bobbin can be preset by a calibrated knob. An automatic stop motion stops the spindle when the bobbin is full. (A-246)

Open Creel for Spinning

The Open-Aire Creel, featuring an improved open-top construction for easier cleaning and improved yarn quality, was announced by Bahnson Co., Winston-Salem, N. C.

Of all-steel construction, the creel allows a direct, unobstructed air blast from overhead cleaners to reach all sections of the spinning frame. Since all top surfaces of the creel are curved and slanted, lint and fly cannot accumulate; the possibility of slubs and bad yarn is greatly reduced. (A-247)

Bondable Spinning Tape

A bondable nylon spinning tape, Burnylbond, was announced by Burlington Narrow Fabrics, a member organization of Burlington Industries, Greensboro, N. C.

The tape, said to wear three to four times as long as cotton tapes, can be formed into an endless belt by bonding without distortion at the splicing point. (A-248)

Large-Package Yarn Bobbin

A filling bobbin for hand-threaded shuttles designed by B&B Perimeter Ltd., Bradford 3, Yorks, England, increases the amount of yarn up to three times with the same outside diameter.

The device is a small-diameter tube that slides over the shuttle spindle the common way. Each end of the tube has a metal insert with a raised surface to insure that the yarn comes off the tube at a constant tension. Since the yarn tension is constant and there is no drag, faster loom speeds result. (A-249)

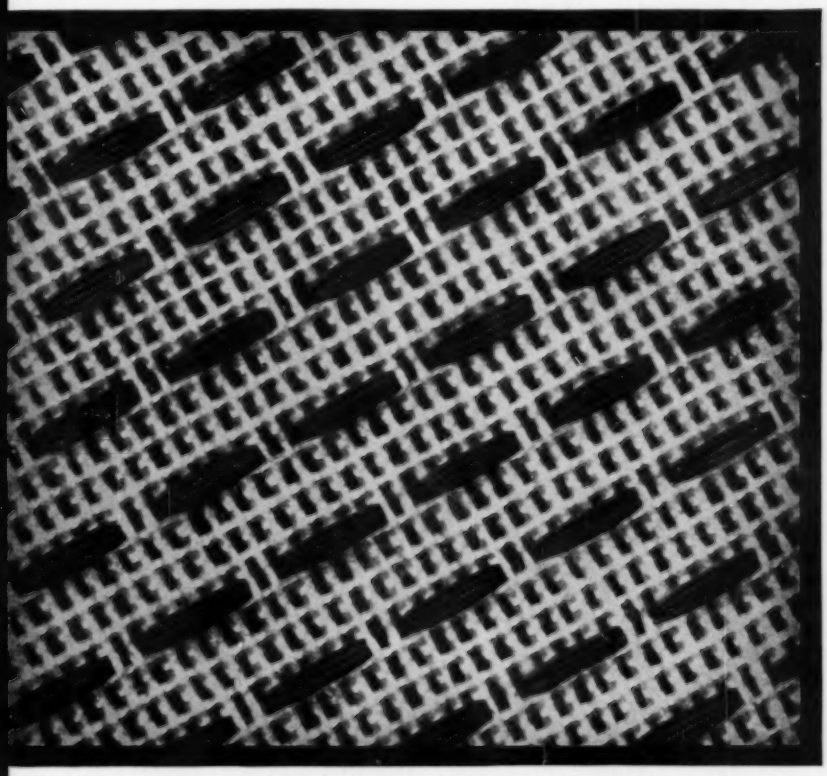
Slubbing Motion

A slubbing motion for spinning frames that permits variation of the distance between slubs was announced by Tweedales & Smalley Ltd., Castleton, Rochdale, England. The machine delivers approximately 6,000 yds. of yarn during a complete operating cycle; this production is calculated on a front-roll diameter of 1 in. (A-250)

Picker Tare Weight

A picker-tare-weight indicator was announced by Strandberg Engineering

The Close-up of Construction



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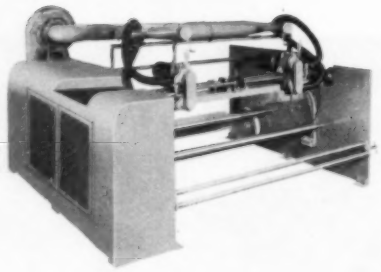

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Penford Gums

Laboratories, Greensboro, N. C. The instrument accurately measures the tare weight of picker laps as determined from the moisture content of the lap as it is being made.

A conventional rake or other assembly is used for making electrical contact with the lap as it leaves the picker. The moisture information is converted into pounds. (A-251)

Coiler Change-Over

A 15x42-in. coiler change-over for six; five-, and four-delivery drawing frames was announced by Southeastern Loom & Machine Works, Greenville, S. C. The coiler uses an over-center lay, in which the coiler diameter is greater than the radius of the can. The larger lay produces a more-uniform pattern in the bottom of the can and eliminates the tangling of sliver. (A-252)

Sliver Guides

Sliver guides made from highly polished aluminum were announced by Southeastern Loom & Machine Works, Greenville, S. C. To decrease friction, the guides have a special Teflon finish. (A-253)

Yarn Analyzer

A smaller yarn analyzer was developed by Standard Electronic Research Corp., New York, N. Y. The EMI model does the same job as the EMD model with the same accuracy, but it can be fitted into a cabinet that requires a 22x18-in. floor space with a height clearance of 36 ins (A-254)

Card Sets

Type 500 card sets, suitable for wool and wool blends, staple rayon, cotton and cotton waste, shoddy, silk waste, and other fibers, was announced by Spinnbau GmbH., Bremen/Farge, Germany.

The cylinder is driven through gears; and through infinitely variable gears, a longitudinal shaft drives the feed train, the doffer, the comb, and conveyor or condenser through change wheels. Shaft speed is controlled by a hand-wheel or remote motor control arrangement.

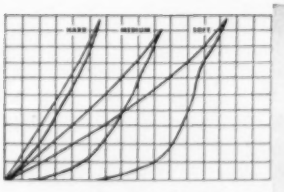
Delivery speed can be gradually raised once the feed weight and web weight have been determined. (A-255)

Guide for Tow Creeling

A guide between the carton and the feed section of the Turbo Stapler and

Do you need to evaluate *Elastic Fabrics?*

Here's the Standard apparatus for Stretch-and-Recovery testing



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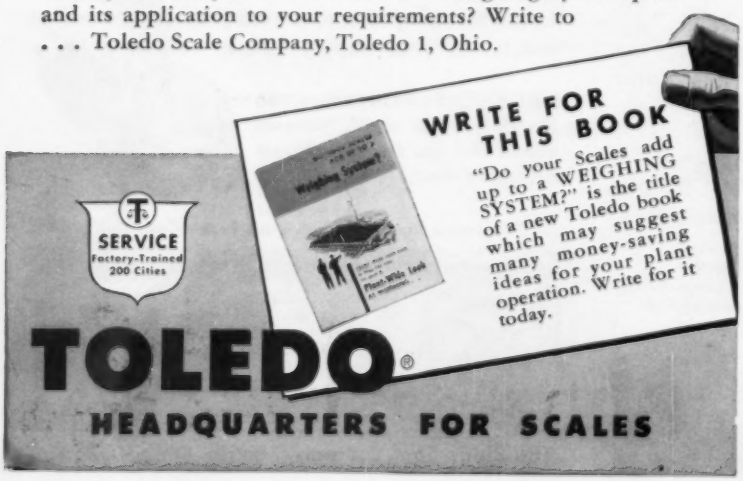
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Pacific Converter is available from Turbo Machine Co., Lansdale, Pa. The guide maintains the tow end in a fixed position as it is pulled from the carton and fed through a tensioning section to breakers or cutters.

The guide has three curved bars mounted on a holder. One guide unit is required for the Turbo Stapler, four for the Pacific Converter. The individual guides can be staggered for a double-layer (two tow ends over two tow ends) or a single-layer cut (four tow ends side by side). (A-256)

WEAVING

CONTINUED FROM PAGE 124

Filament-Rayon Loom

A 120-den. filament-rayon wrap can be woven at 184 ppm. on the BAN-LXR loom developed by Ruti Machinery Works Ltd., Ruti/Zurich, Switzerland.

The loom, with a 63-in. reed space, is for single-shuttle weaving; but it is also manufactured as a 2x1 loom for filling mixing. It has a side-cam harness motion with up to eight harnesses, an electric filling feeler, and no arches. (A-257)

Molded Shuttles

A molded shuttle, Tru-Mold, was developed by Draper Corp., Hopedale, Mass., to overcome many of the difficulties associated with dogwood shuttles. The manufacturer claims that mill trials have proved Tru-Mold shuttles increase shuttle life 2½ to 3 times. The shuttle is heavier than its counterpart made of dogwood and therefore provides better shuttle-flight control with reduced pick-motion power settings. (A-258)

Slasher Doffer

The Flying Doff, a slasher take-up that transfers the yarn from a full to an empty beam in 2 secs., was developed by Unistel Textile Machine Corp., Port Chester, N. Y. After the transfer is completed, the full beam is doffed at the convenience of the operator.

The transfer motion cuts and refastens the yarn under tension from the full to the empty beam. The slasher is stopped for a short time. After the full beam is doffed, the new beam, with the slasher in operation, is moved into the running position; and another empty beam is put into the second cradle ready for the trans-

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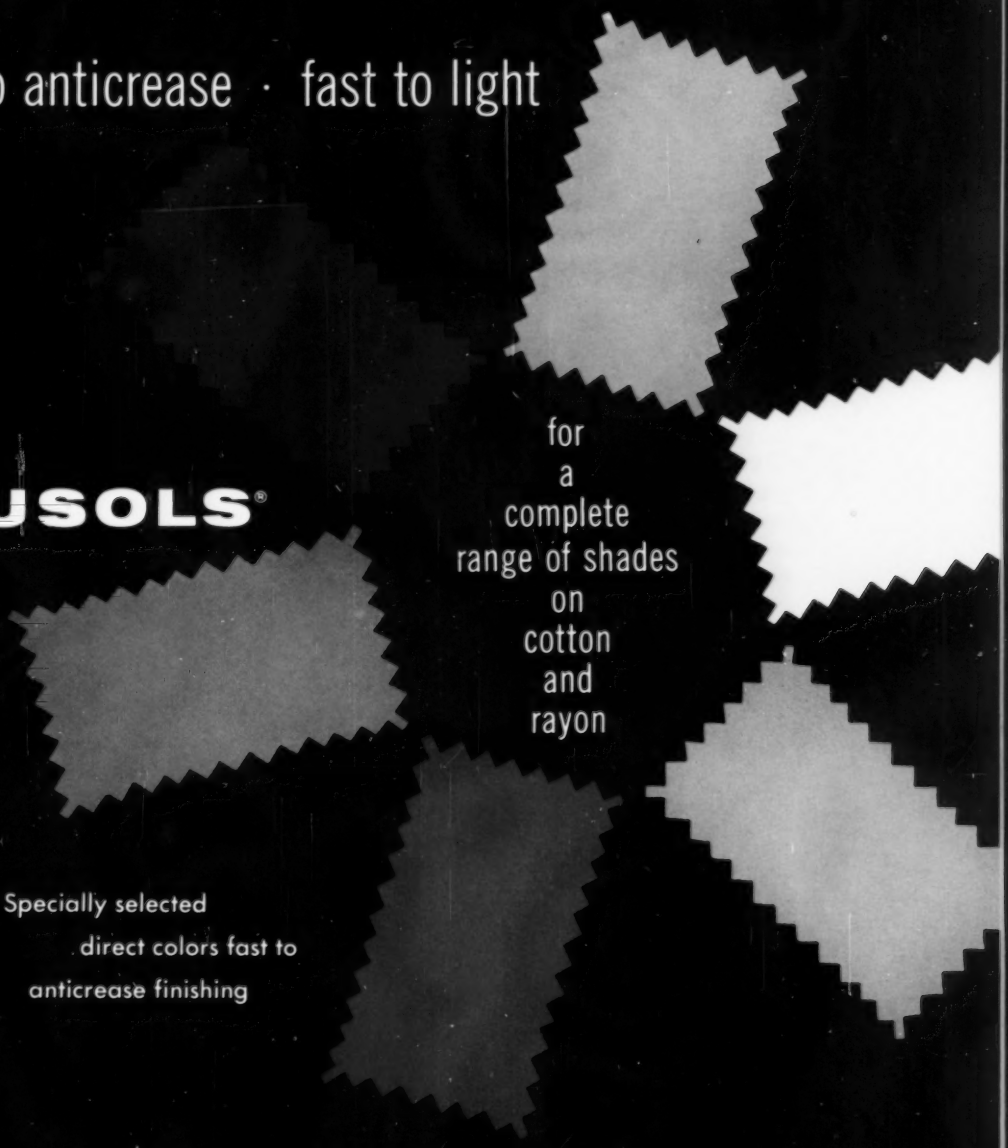

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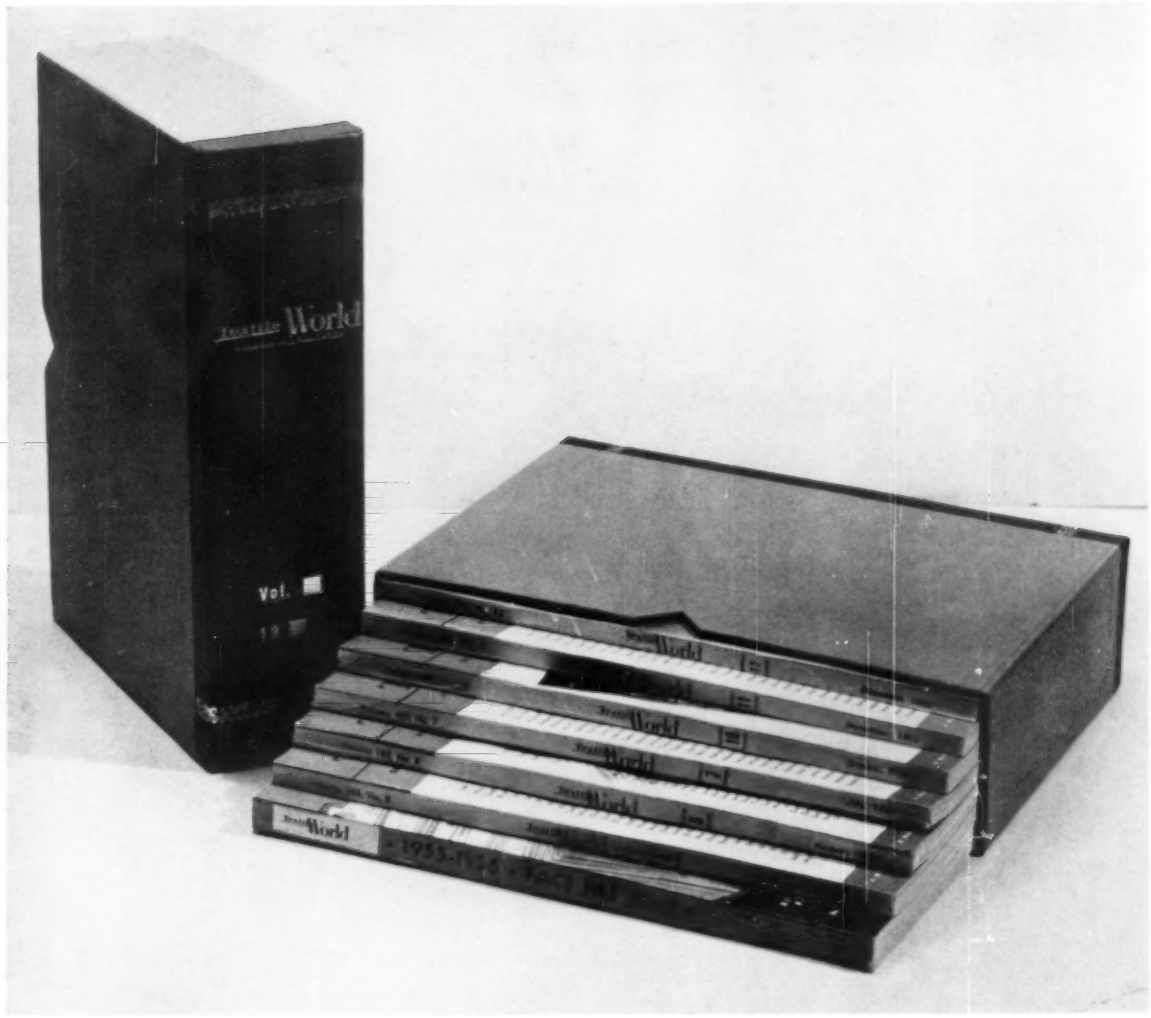

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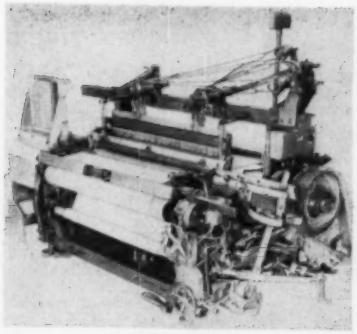
fer. The slasher continues to operate while the new beam is moved into the regular running position. (A-284)



Shuttle-Changing Loom

Henry Livesey Ltd., Blackburn, England, and S.E.M. Auto Looms Ltd. produced a shuttle-changing loom designed to weave synthetic fibers. The shuttles are made with features specially adapted to weave filament-rayon yarns.

An electric feeler is incorporated to indicate shuttle changes at filling run-outs. A positively driven take-up and an automatic let-off work together. The loom can be fitted with the normal harness motion of six harnesses or with the side-cam dobby with 20-harness capacity. (A-259)

Five-Strand Braider

The D. B. braider, developed by Douglas Fraser & Sons Ltd., Arbroath, Scotland, produces five-strand braids of the type used in rope-soled shoes. Up to 14 bobbins are placed in the creel above the machine (an auxiliary creel can be supplied).

The braid roll holds 16 lbs., and one operator can tend up to 30 machines. Production varies with the plait, but the saddle speed is constant at 200 rpm. A plait weighing 31 grams per meter is produced at 201 meters per hour; the doffing sequence is 70 mins., and creeling is done without stopping the machine. (A-260)

Weaving Machine

A weaving machine said to produce 24 rolls of cloth 39.37 ins. wide simultaneously in several colors of filling was announced by Construcciones Mecanicas Cerdans, S. A., Barcelona, Spain.

Six warp beams are located in lengthwise rows over each side of the machine, and the warp ends are fed downward through a series of needles moved by grooved cam plates. The filling is carried through the warp shed

CONTINUED ON PAGE 218

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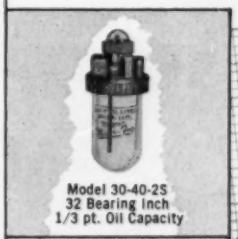

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32 Bearing Inch
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Series S3406
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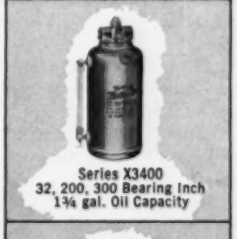

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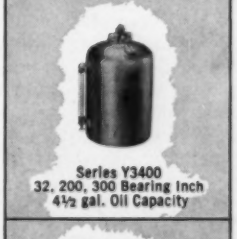
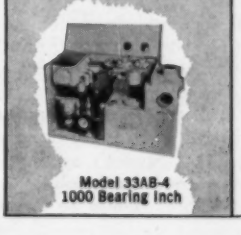
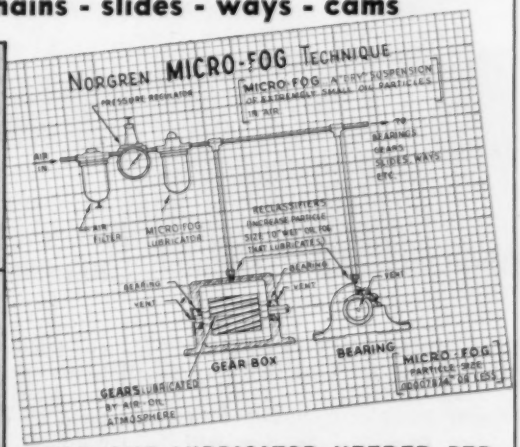
32, 200, 300 Bearing Inch
1¾ gal. Oil Capacity



Series Y3400
32, 200, 300 Bearing Inch
4½ gal. Oil Capacity



Model 33AB-4
1000 Bearing Inch



ONLY ONE LUBRICATOR NEEDED PER MACHINE Norgren MICRO-FOG can be uniformly distributed through a complex piping system to multiple lubrication points. One lubricator can completely lubricate all parts of a machine. Norgren has a wide assortment of lubricators with maximum capacities up to 1000 bearing inches.

BETTER LUBRICATION Norgren MICRO-FOG automatically supplies just the right amount of oil for lubricating machine components — no more, no less.

PROTECTION FROM LINT The slight air pressure in bearing or gear housings prevents entry of lint or foreign material.

MINIMUM USE OF AIR The advanced design of Norgren MICRO-FOG Lubricators makes possible complete textile machine lubrication with a minimum of air consumption.

PRECISE CONTROL OF LUBRICATION The delivery of Norgren MICRO-FOG to machine parts is precisely controlled. MICRO-FOG is delivered at a uniform rate regardless of the supply of oil in the reservoir.

LOWER BEARING TEMPERATURES Air borne Norgren MICRO-FOG maintains a lower operating temperature for textile machine parts —reducing wear, improving performance, increasing machine life.

VISIBLE OIL FLOW 360° visibility of oil flow simplifies adjustment of oil feed rate, and provides visual assurance that the lubricator is operating.

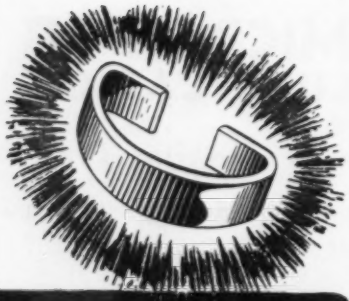
Without obligation, learn how Norgren MICRO-FOG can reduce costs in your plant. Call your nearby Norgren Representative listed in your telephone directory—or **WRITE THE FACTORY FOR NEW No. 700 CATALOG.**

C.A. Norgren CO.

3404 So. Elati Street, Englewood, Colorado

Pioneer and Leader in Oil-Fog Lubrication Since 1930

For more information, write direct or use Reader-Service post card.



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Ring Travelers

OUR SPECIALTY!

Our specialty is making Dary ring travelers — an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

When you need ring travelers, call on our experience to aid your choice. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
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LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

MILL MAINTENANCE

Keep Floor Cost Low With Regular Care

Until recently, judgment concerning the cost of a floor was based largely upon the initial expenditure. But today management men realize there are other important factors to consider.

Cleaning cost is one factor; maintenance cost is another. And the initial cost of a floor means nothing until it is measured in terms of the number of years it will last.

How To Measure Floor Cost

The only true measuring stick of flooring cost is the cost-per-year basis. The first step is to divide the initial floor cost by the number of years of service expected. The life of Northern hard maple may be 30 years or more, for example.

Then add to this cost per year the estimated yearly cost for cleaning and maintenance, which depends on the standard floor condition you require. These figures will give you the annual cost of the floor.

With improved methods of finishing procedure, brushing alone will keep hardwood floors clean for months. This daily saving in cleaning costs becomes a highly significant factor in determining the true cost of floors. Further factors that affect floor costs are: (1) simplicity of maintenance, (2) convenience of alterations, and (3) the low cost of finish renewal.

Scrape and Sand New Floors

Northern hard maple, beech, and birch flooring come from the mill smoothly surfaced. But when any floor is laid, slight inequalities, scratches, and other marks appear. These marks can be removed by scraping or sanding. Smooth sanding is essential for a good finish job.

Newly laid floors should be scraped or sanded lengthwise with the grain. Use No. 2 or 2½ sandpaper for cutting off high spots and joints; use No. 1 for the second cut. Finish the sanding job with No. O or OO sandpaper, or with both. This final sanding step is the most important of all because the finest finish cannot make a poorly sanded floor look good.

How To Finish a Floor

In applying finish to a floor, carefully follow the instructions given by the manufacturer of the finish. Through his own tests and experience, he knows (1) how to prepare the floor for finishing, (2) how the finish should be applied, (3) how many coats are required, (4) how long each coat should be allowed to dry, (5) how a stained effect can be obtained best, (6) how the finished floor should be cleaned, and (7) how and when the floor should be refinished.

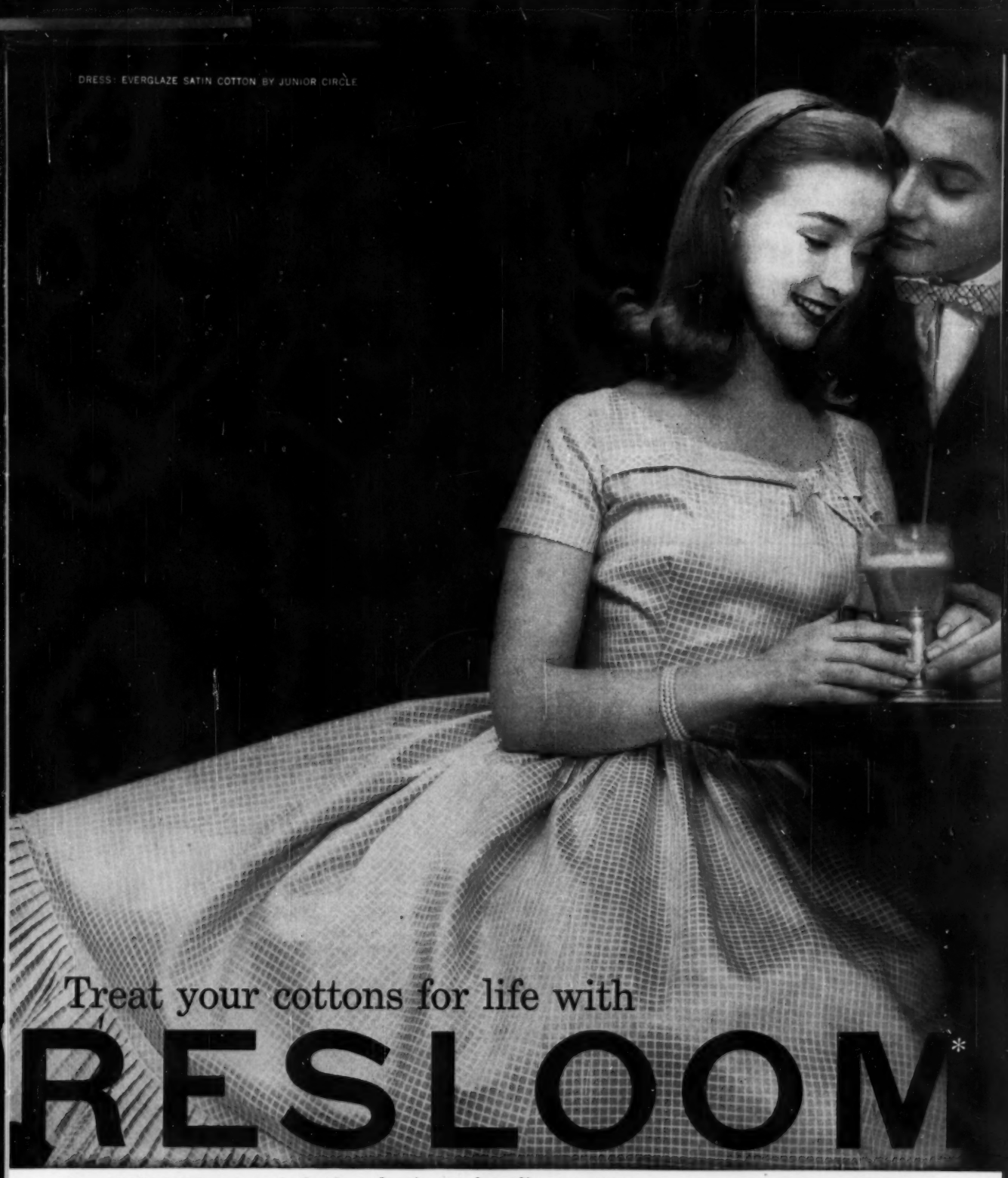
Follow the finish manufacturer's instructions, and you can be sure of having a floor that: (1) will be easy to service, (2) will have the best appearance, and (3) will be easily kept clean and in the proper condition at the lowest possible cost.

When you ask your floor-finish manufacturer for information, be sure to mention (1) the type of building, (2) the type of floor—maple, beech, or birch—and (3) whether the floor is old or new.

Finish All Hardwood Floors

All hardwood floors should be given some kind of finish. A proper finish, correctly applied, improves the appearance of the floor and makes scrubbing unnecessary. And elimination of scrubbing adds to the life of the wood.

Modern methods of cleaning maple



Treat your cottons for life with RESLOOM*

Supplied by Monsanto in both melamine and cyclic urea types

MONSANTO

*RESLOOM: REG. U. S. PAT. OFF.

For finishes requiring a melamine resin, top results are obtained with Resloom HP or M-75. For finishes requiring a cyclic-urea formaldehyde, Resloom E-50 meets the most exacting standards.

Still other finishes are obtained with outstanding success by using a "blend" of the two types.

All of Monsanto's Resloom textile resins have this in common: They impart a finish that does not wash out. Treated cottons keep their dimensional stability and wrinkle recovery for life.

The reason is simple. Resloom resins do more than coat the surface. They are deposited inside absorbent fibers where they actually modify fiber characteristics.

Get impartial counsel. A Monsanto representative will be glad to work with you on your cotton finishing problems. Write Monsanto Chemical Company, Plastics Division, Room 1046, Springfield 2, Massachusetts.

Reference Chart

of

BEMBERG® RAYON NOVELTY-YARNS

TYPE YARN	DESCRIPTION	DENIERS	FUNCTION	FABRIC END-USE
SHORT NUBBI NUBBI INTERRUPTED SERIES	High-low, non-mechanical, short entangled slub, irregular in size and spacing. (Also specials running part slub, part smooth).	150-200-300 400-600-800	Filling with acetate, silk, cotton, Chromspun or Fortisan warps.	Lower deniers in dress and blouse fabrics. Heavier deniers for draperies, upholstery, bedspreads.
TYPE "B" CUPIONE	Longer entangled slub, irregular in size and spacing, but mechanically controlled for the Douppioni silk-look.	50-70-100 150-275-450 600	Filling with acetate, silk, cotton, Chromspun or Fortisan warps.	Dress and blouse fabrics.
LONG TYPE "A" SLUB	Long, parallel, non-entangled slub for the true thick and thin look. Soft hand.	275-450-600 900-1250-1600 2500	Filling with acetate, silk, cotton, Chromspun or Fortisan warps.	Lower deniers in dress and blouse fabrics. Heavier deniers for draperies, upholstery, bedspreads.
TYPE "C" LONG SLUB WARP YARN	Long thick and thin, similar to Type "A" but filaments are more closed, making it suitable for warp or filling.	150-275-450 600-900-1250 2500	Both warp and filling. Warp with any filling, including Bemberg nubbi-yarns. Plied with spun flake yarns for warp and filling.	Warp and filling for dress and blouse fabrics. Warp with any filling for drapery, upholstery, and bedspread fabrics. Plied with spun flake yarns for men's suitings.
MEASLE YARN	Part tight, part loose filaments with different shrinkage . . . forming loop or boucle effect. In weaving, loops break through surface of fabric for decorative dot effect.	1200-2000-3000	Filling with acetate, silk, cotton, Chromspun or Fortisan warps.	Lower deniers as filling in dress and blouse fabrics. Heavier deniers for upholstery, draperies, bedspreads.
STRATA SLUB MULTI-STRATA SLUB MULTI-MULTI STRATA DREAM SLUB	Torpedo shaped slubs spaced: Strata, 9' apart; Multi-Strata, 6' apart; Dream, 18" apart. Multi-Multi Strata, 6' apart but shorter slubs than Multi-Strata.	150-275-450 600-900-1250 2500-5000	Filling with acetate, silk, cotton, Chromspun or Fortisan warps.	Upholstery, draperies, bedspreads.
FLAKE SLUB	Short, entangled slub similar to flake slubs made with staple yarn. This yarn must be plied with a supporting end for commercial running.	300-600	Filling with acetate, silk, cotton, Chromspun or Fortisan warps. As multi-colored decorative yarn. Plied with any Bemberg yarn.	Upholstery, draperies, bedspreads.
SPUN PLIED FLAKE	Part of the end running normal and part running with flake slub. Similar in softness and appearance to other flake, and will run in filling without being plied with a straight yarn.	300-600-900	Filling with acetate, silk, cotton, Chromspun or Fortisan warps. As multi-colored decorative yarn. Plied with any Bemberg yarn.	Upholstery, draperies, bedspreads.
GLITTER	A monofilament yarn with a metallic appearance.	300-450	Filling with acetate, silk, cotton, Chromspun or Fortisan warps. As multi-colored decorative yarn. Plied with any Bemberg yarn.	Decorative purposes in all fabrics.

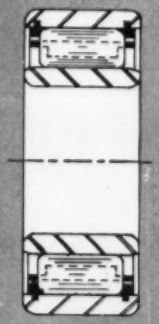
BEMBERG® RAYON NOVELTY-YARN COLORS:

Natural for piece-dyed fabrics. 33 direct skein-dyed colors for loom-finished fabrics. In addition to direct colors, all the above yarns can be skein-dyed in sunfast or vat colors.

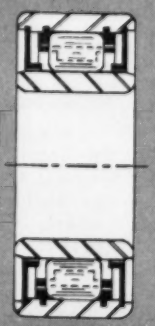
AMERICAN BEMBERG • Main Office: 261 Fifth Avenue, New York 16, N. Y. • Plant: Elizabethton, Tenn.

How Rollway Bearing *Adaptability* Can Cut Your Costs

Rollway's Adaptability Solves Sealing Problem



Question was raised on textile machine bearing installation: "Can oil seal be incorporated *without increasing bearing width?*"



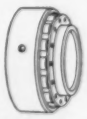
Solution: Standard narrower retainer with rollers of sufficient load capacity substituted — providing space for inner and outer oil seals. Standard width outer race readily machined for snap ring and sealing ring grooves.

Lint. Load. Over-load. Torque. Temperature. Space. Speed. You name the textile bearing requirement; Rollway can meet it.

In fact, there's almost no limit to the number of factors Rollway Bearings are now adapted to — or can be adapted to.

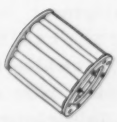
Using adaptations of sizes and types, Rollway engineers can often design bearings for out-of-the-ordinary applications. And, since all components involved are standard production items, such installation can be made at little or no extra cost.

Rollway engineers will be glad to help you in your efforts to lower your bearing costs. *Isn't it worth a try?* No charge, no obligation — simply write, phone or send prints. Rollway Bearing Co., Inc., 557 Seymour St., Syracuse 4, New York.



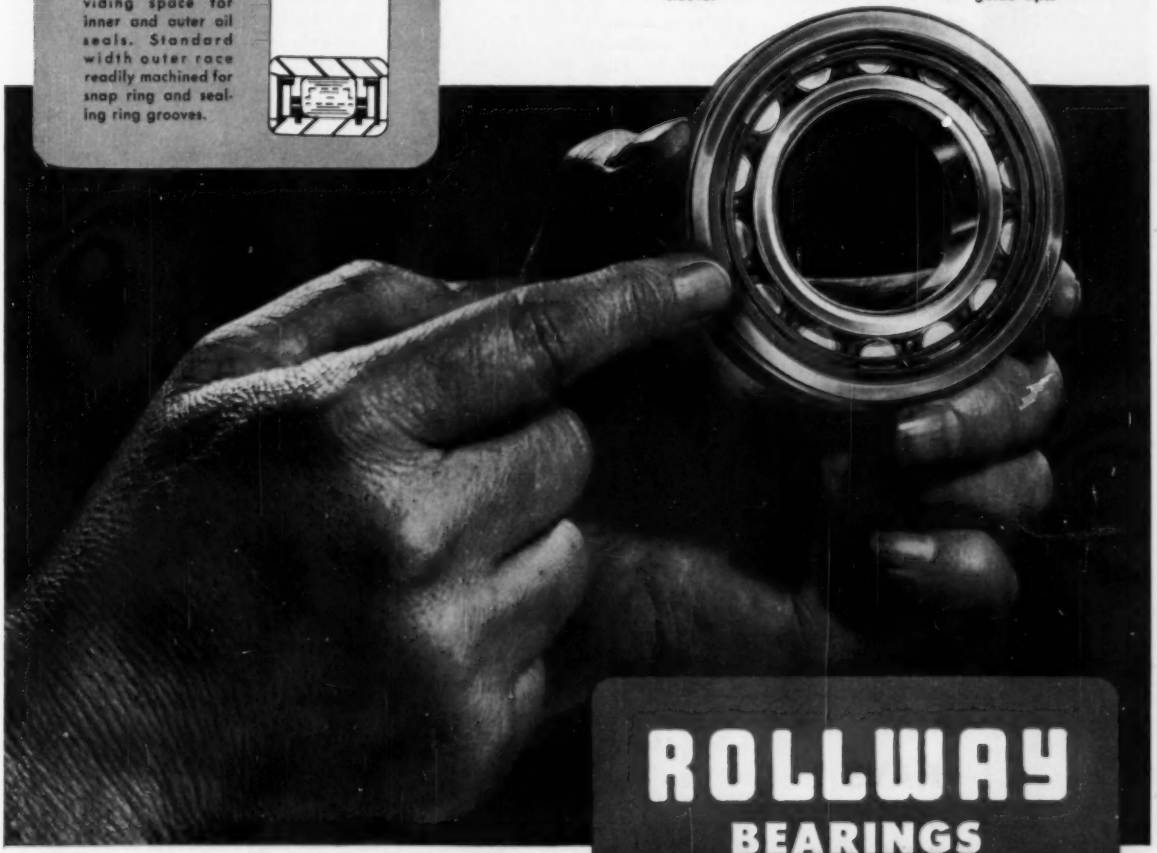
Steel cage, metric series—solid races.

Steel cage, inch series — planished sleeve.



Steel cage, inch series — no races.

Steel cage, heavy duty — contoured guide lips.



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COMPLETE LINE OF RADIAL AND THRUST CYLINDRICAL ROLLER BEARINGS

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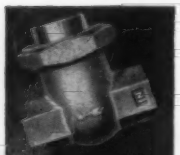


ELECTROFLO VALVE

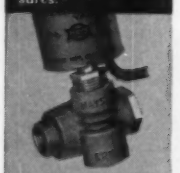
An electrically operated valve for controlling on and off flow of fluids. For large flow volume.

SHUR-FLO INTERLOCK

A control to protect equipment when flow is below a desired minimum; or above a desired maximum.

MESURFLO CONTROL

A flow volume control to deliver one set rate of fluid flow, regardless of variable inlet pressures.



ELECTRO-MITE VALVE

A direct action solenoid valve for small flow volume. Available with volume control.

STRAITFLO STRAINER

A straight line strainer, installed in the supply, having the entire strainer area within the flow-way itself.

ELECTRO-MESURFLO VALVE

An electrically operated valve with flow volume control. For medium flow volume.

New

AUTOMATIC

FLOW

CONTROL *for* WATER

If your problem concerns a specified flow of fluid or time-fill, we suggest you design Hays *automatic* flow controls into your equipment. Hays products are trouble-free and offer absolute internal water control. They are low cost, and eliminate the need for such components as pressure regulators, filters, and other devices.

WRITE FOR TECHNICAL REFERENCE FOLDERS

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INDUSTRIAL SALES DIVISION

HAYS MFG. CO.

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floors have been simplified and made cheap through buffing with steel wool, usually with electrically driven equipment. Smoother floors result; and the smoother the floor, the easier it is to clean. Floor seals can be applied and buffed in with this equipment.

What Is a Good Finish?

The requirements of a good floor finish include:

1. The finish must penetrate the top surface of the wood.
2. The finish must seal the pores to keep out dirt and resist soil stains.
3. The finish, with its penetrating qualities, must not darken the wood.
4. The finish must reflect light to improve illumination.
5. The finish should not be slippery.
6. The finish must not mar, scratch, or flake off.
7. The finish must be of such quality that worn spots can be touched up without completely refinishing the floor.
8. The finish (sealer) should be resistant to water.
9. The finish, after application, must not present a maintenance problem. It must insure economy in maintenance to eliminate constant resanding and complete refinishing. *Maple Flooring Manufacturers Assn.*

WEAVING

CONTINUED FROM PAGE 213

by a series of yarn carriers, each fitted with a disk bobbin of filling. The filling is taken from cones at each end of the machine. (A-261)

Single-Shuttle Loom

High speed with little mechanical attention is said to be possible with the Bal single-shuttle cotton loom developed by Ruti Machinery Works Ltd., Ruti/Zurich, Switzerland. Forty-two-inch cloth with 3,040 ends will weave at 220 ppm.

The loom has a 27½-in. beam, side-fork filling stop motion, mechanical feeler, and roll-and-shaft harness motion. (A-262)

KNITTING

CONTINUED FROM PAGE 127

ing and straightening spring-beard needles, welt hooks, and narrowing points.

The instrument does the work to within 0.01 mm. The needle silhouette is magnified 10 times, and a reference drawing is used.

The average hourly output of a female operator working a 8¾-hr. shift on 60-gauge needles is: spring-beard needles, 120 to 150 pieces; welt hooks, 200 pieces; narrowing points, 220 pieces; picot points, 230 pieces. An operator can be trained in 8 to 10 days. (A-263)

Fringe-Making Machine

Fringes up to 4½ ins. wide for garment and furniture trimmings can be produced at 200 stitches per minute on the crochet machine made by Charles Leek & Sons Ltd., Leek, Staffordshire, England.

The outer edge of the fringe can be held by a claw-and-picker motion or by a draw thread. Drop wires are hung on all threads and actuate an electrical stop motion when a thread breaks. (A-264)

Nylon-Hose Plasticizer

A plasticizer introduced by Girland Engineering Co. Ltd., Bulwell, Nottingham, England, is suitable for pre- and postboarding of nylon hose and half-hose. Occupying a floor space of 6½x4½ ft., it is capable of preboarding 36 to 40 doz. pairs per hour with two operators.

Each side of the machine is fed by two carriages, which run along rails fitted to the base stand. A spring-loaded lever acts as a position-locking device. Each carriage carries 24 forms hinged to stainless-steel plates. (A-265)

Seam-Free Hosiery Machine

The Fidelity 400 machine, built by Fidelity Machine Co., Inc., Philadelphia, Pa., can now be changed from plain to mesh or stretch fabric in a few minutes. The machine is electronically controlled, and the changeover is done by an integral part of the machine. (A-266)

Full-Fashioned Outerwear

Speeds up to 90 courses per minute are claimed for a new full-fashioned outerwear machine developed by S. A. Monk Ltd., Sutton-in-Ashfield, Notts., England. Fewer moving parts, with fewer adjustments and less wear, are the results of the new principle used. (A-267)

Hosiery Packaging Machine

A machine that packs hosiery in cellophane bags at the rate of 2,000 pairs an hour is announced by Fr. Hesser Maschinefabrik AG, Stuttgart-Bad

CONTINUED ON PAGE 122

Here's how ARMOUR ENERGETIC® brought sharp, bright colors and clear backgrounds to Cranston's new Dri-Smooth prints

. . . and will do the same for you!

Here's what Tom Latham, Chief Chemist of the Cranston Print Works (Fletcher Division) says: "We feel Armour Energetic has made considerable improvement in the consumer appeal of our new Dri-Smooth Finish fabrics. Its superior ability to suspend soil and pigment particles in wash water and also prevent their redeposition on the cloth, has allowed us to have perfect printing execution, sharp, bright colors and clear backgrounds."

Armour Energetic Saves You Money! A powerful concentrated non-ionic synthetic detergent, Energetic is supplied 90% *active*—takes only one pound to do the job of 3 pounds of anionics. This amounts to a savings per job of about 21¢ with every pound of Energetic you use.

Test Energetic now with this trial-order plan! Send coupon for free test samples of Energetic and complete booklets on all three Armour Energetic products. For quick delivery of a 5-gallon trial drum, place an order by checking the appropriate square in the coupon.

SEND FOR A TRIAL ORDER TODAY!

Armour Industrial Soap Department
Armour and Company, 1355 W. 31st St., Chicago 9, Ill.

Please send me:

- ☐ 5-gallon drums of *Energetic* @ $13.86 each
- ☐ Free Booklet, *Energetic and Energetics*
- ☐ Free Booklet, *Energetic W-100* (Instant wetting agent)
- ☐ Bill me ☐ Check enclosed ☐ Money Order

Your money back if not completely satisfied.
For refund, simply ship us unused portion.

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Firm_____

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T2

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Soap Division
INDUSTRIAL SOAP DEPARTMENT

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Many strange fibers are "meeting on the frames" today, as new developments continually increase the number and variety of synthetics and blends.

Controlling these new fibers and filaments in spinning or twisting can be tricky business. And you seldom have much time to experiment. Let Victor *experience* take the place of costly trial-and-error.

Victor "keeps a step ahead" by working with the producers during development of new synthetics. That's why, when they reach you for production, Victor is prepared to help you overcome any new processing problems they present.

When you need help to get top-quality and trouble-free production—with synthetics, blends, or natural fibers—call in a Victor Service Engineer. Write, wire, or phone the nearest Victor office for prompt service.

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Every Season

is Sweater Season with

Leighton Knitting Machines

Increase your sales with twin sweater sets. To-day it's Flexibility you want to keep pace with new trends in knitted outerwear fabrics.

Special Leighton Features:

Less Yarn Strain. The big dial eliminates sharp bends—you knit soft spun yarns with less end breakage.

Better Cam Action. Leighton operates horizontal needles from the OUTSIDE DIAL toward the center. The face of the fabric is in full view of the knitter.

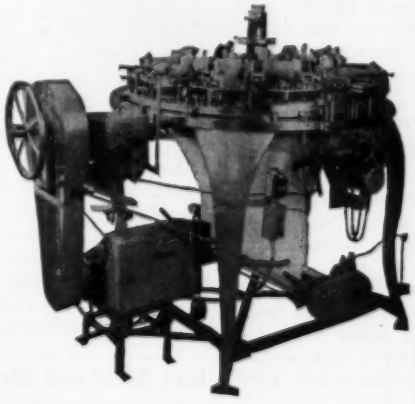
More Flexibility. Leighton needles are spaced to give more room which allows a wide range of yarn to be knit without changing needle cuts.

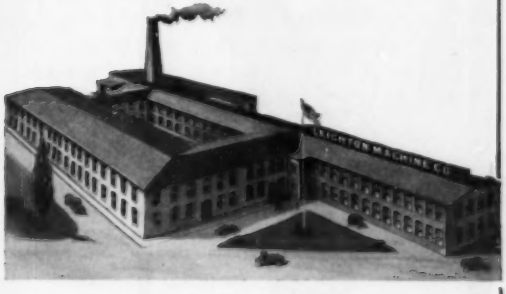
(Photo Courtesy Wool Bureau, Inc.)

Twin sweater sets are fashionable in all age groups.

Plain or Fancy Fabrics. Custom built with multiple feeds, two speed control, two and three color stripes. Two and three needle rack. Brushing attachment to brush as you knit. Firm durable elastic rib trim.

Built Right . . . to Knit Right on all types of yarns.





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WORCESTER, MASSACHUSETTS

"If it's leather belting, cements or dressings, buy G&K products with assurance."
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WORCESTER, MASSACHUSETTS

closed and sealed with an adhesive band cut from a roll. Packed stockings leave the machine on a conveyor band in piles of three pairs. (A-268)

Hosiery Tension Device

The Neversnarl yarn-control unit controls and eliminates high-twist yarn snarling at the source, according to The Bentley Knitting Machinery Organization, Inc., Providence, R. I.

The device can be used on seamless-hose and full-fashioned machines, and it is particularly useful with stretch yarns. It eliminates all other tensions except the feed tension. The unit is used without conditioning boxes.

Once the tension is set, the operator need not touch the cone again until it is removed. (A-269)

Course Counter

The Marvel-Meter counts stitches at the rate of 40 stitches per second. The instrument, used for controlling leg lengths and quality of hosiery, is built by Marvel Specialty Co., Inc., Paducah, Ky.

The instrument is contained in a small box, which can be taken from machine to machine and plugged in a 110-v. circuit. A calibrated dial records up to 150 courses. The reading is taken over a 3-in. length of stretched fabric.

Tolerances of leg lengths have been kept to within ½ in. with the instrument. Selvage tests can also be conducted with the instrument, human error in counting is eliminated, and no time is lost between knitting and checking. One operator can check production from 25 machines every 8 hrs. (A-270)

Flat Knitting Machine

An automatic flat knitting machine for collars, cuffs, and garment sections is available from Ainslie Knitting Machine Co., Inc., Brooklyn, N. Y. Five- to 12-gauge machines are available in 60-in. widths.

Features: High- and low-butt needles are set in front and back beds, and the upper and lower cams are controllable for every course. Stitch tightness is controlled from three positions. (A-271)

BLEACHING, DYEING, FINISHING

CONTINUED FROM PAGE 132

Continuous Bleaching Range

Proctor & Schwartz, Inc., Philadelphia, Pa., completed a new bleaching range.

A prescouring unit of four compartments precedes a four-compartment dyeing and peroxide-saturating unit. An optical bleach is applied in the first two boxes of the saturator, and peroxide is applied in the last two boxes. Squeeze rolls between all compartments of the scouring and bleaching units insure efficient results.

The water used in the scouring unit comes from the overflow from the final white washer; so consumption of steam and water is kept low. Excess optical bleach from the second compartment of the saturator is fed back to the first washer, where it is almost completely picked up by the cloth.

After saturation with peroxide, the goods are run into a steaming chamber. A small scray receives the goods and acts as a preheater and synchronizer. Goods are delivered from the scray to a curved conveyor that advances slowly; it requires 1¼ hrs. to reach the unloading point. Temperature in the steamer is maintained at 195° F.

After steaming, a four-compartment washer removes the bleaching solutions.

Capacity of the bleaching range is 30,000 lbs. per 24-hr. day at speeds up to 150 yds. per min. (A-272)

AUXILIARY EQUIPMENT

CONTINUED FROM PAGE 135

Stair-Climbing Truck

A hand truck designed to move materials up or down stairways is made by Valley Craft Products, Inc., Lake City, Minn. The truck handles barrels, boxes, and other parts. (A-273)

Pad for Floor Machines

A steel-wool pad of welded construction for floor-finishing machines is available from Finnell System, Inc., Elkhart, Ind. This construction prevents shredding and bunching and allows the pad to wear evenly. Therefore, the pad lasts three to four times as long as common steel wool. (A-274)

Jack Spool and Cloth Roll

The Flex jack spool and aluminum cloth roll, formerly manufactured by Flex Spool Co., Pittsfield, Mass., are now being produced by Thomas Leyland Co., Inc., Readsville, Mass., a subsidiary of James Hunter Machine Co. and purchaser of Flex Spool Co.

Available with 9- and 10-in. heads in both corrugated and slotted models, the spool is made so that the head will flex instead of break when thrown or dropped. (A-275)

CONTINUED ON PAGE 226

TECHNICAL BULLETIN ON *UVERSOFT* "D"

Send me technical information on Harshaw Uversoft "D"

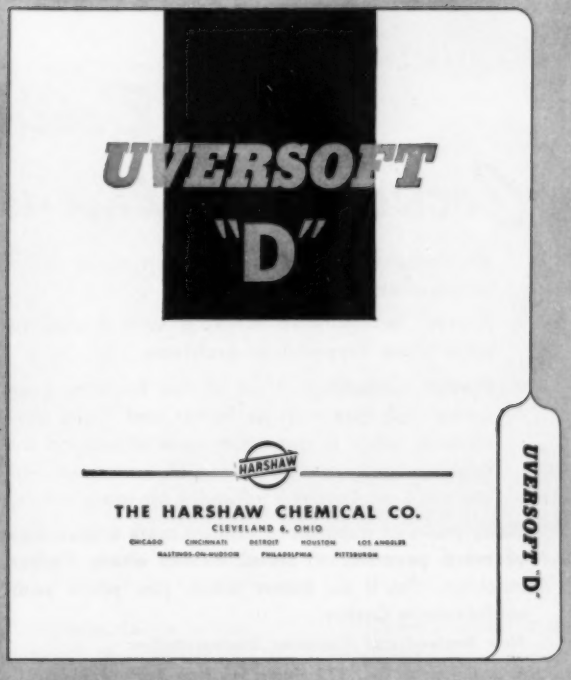
My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

yours for the asking



Imparts Soft Hand With Little Reduction In Moisture Absorbency

UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

THE HARSHAW CHEMICAL CO.

1945 EAST 97th ST., CLEVELAND 6, OHIO

 For more information, write direct or use Reader-Service post card.

What's Behind Cocker Equipment?

1. The longest continuous service on major warp preparation equipment.
2. Proven flexibility in thinking and design to solve warp preparatory problems.
3. Proven leadership. Most of the features now considered essential for better and more economical warp preparation were pioneered by Cocker engineers... and many of them remained exclusive on Cocker equipment for many years.

Many years of experience and intimate knowledge of warp preparation stand behind every Cocker machine. You'll do better when you place your confidence in Cocker.

New England and Canadian Representative:

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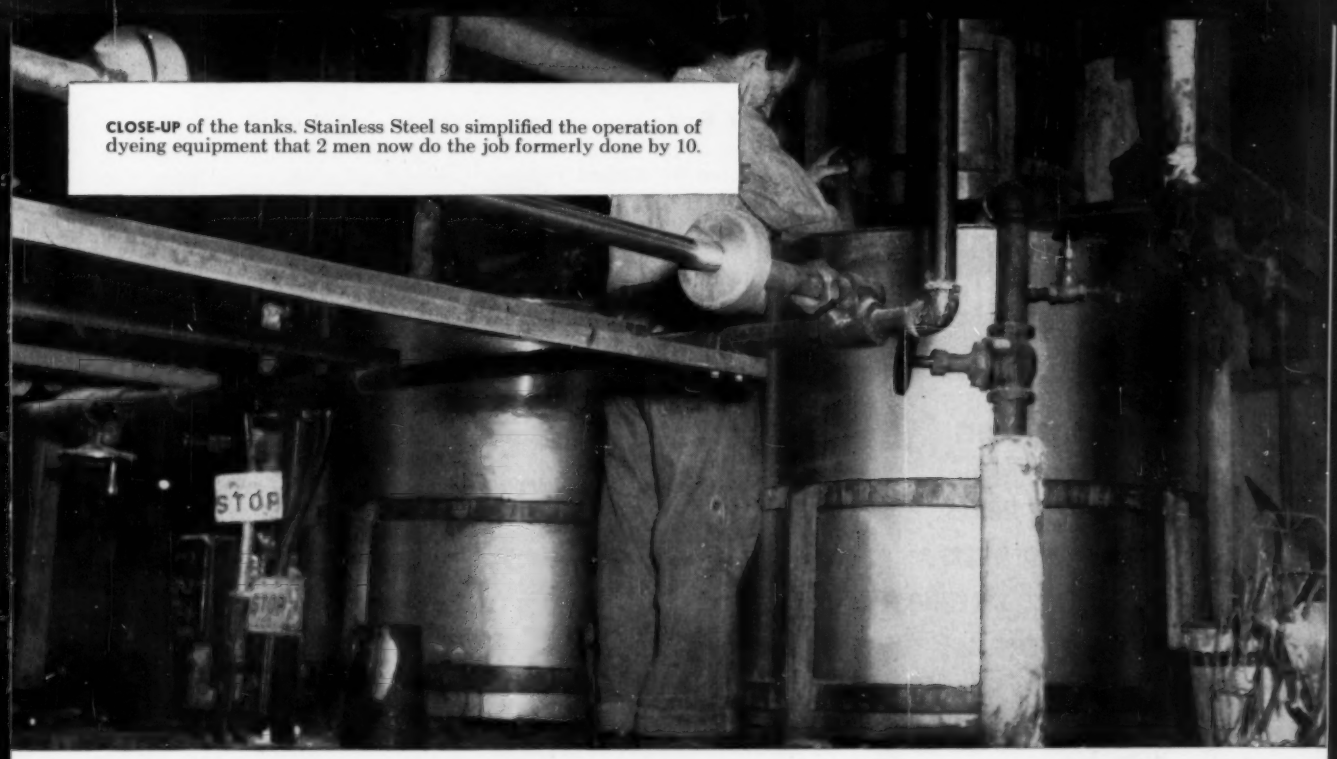
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

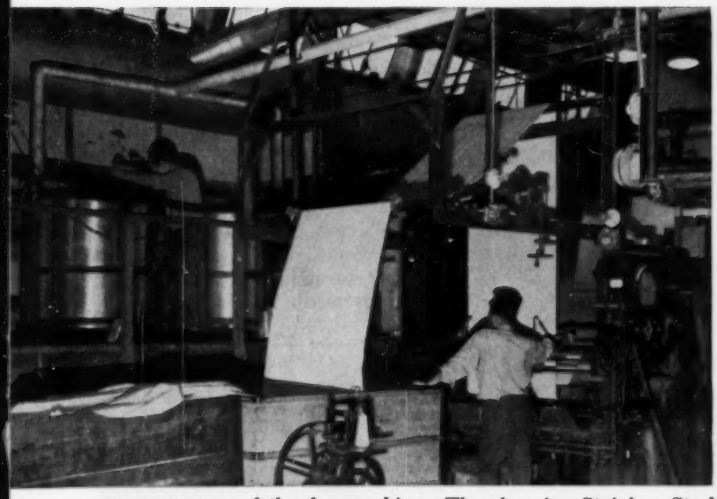
WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

For more information, write direct or use Reader-Service post card.



CLOSE-UP of the tanks. Stainless Steel so simplified the operation of dyeing equipment that 2 men now do the job formerly done by 10.

Wash up time cut 95% with Stainless Steel kettles



THIS SHOWS one of the dye machines. The gleaming Stainless Steel kettles are visible in the background.

at Millville Mfg. Company, Millville, N. J. oldest cotton mill, bleaching, dyeing and finishing plant in New Jersey

Before 1946, the Millville plant used wooden kettles, troughs and tanks for all dyeing equipment. When colors were changed, it took one man 3 hours to wash just one wooden kettle.

Now that Stainless Steel kettles are used, one man washes *three* kettles in 15 to 20 *minutes*. A nine hour job has been cut to a quarter hour, all because of Stainless Steel. These kettles have also eliminated *contamination* of color—a problem no matter how thoroughly the old kettles were washed. But these are only a part of the savings. Look at this service life record:

The previous wooden kettles and tanks lasted only from 6 to 12 months. When caustic soda was used in the dye solution, they never lasted more than 6 months. The Stainless Steel kettles have been in continuous service for 9 years and they are still going strong.

Nothing can equal Stainless Steel in a textile plant. No other metal has such a combination of corrosion resistance, strength, smoothness, cleanability and low cost. When you next buy equipment, ask for a quotation on Stainless Steel. For tops in quality, specify service-tested USS Stainless Steel.

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS STAINLESS STEEL

SHEETS • STRIP • PLATES
BARS • BILLETS
PIPE • TUBES • WIRE
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STEEL FOR THE TEXTILE FIELD

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Antistatic Bars

An Oxy-cold-bar static eliminator was developed by Herbert Products, Inc., Woodhaven, N. Y. The bars are for creels of all makes and sizes. The bars can be installed in about 2 hrs. (A-276)

Printer for Conveyor

Markoprinter, a machine for printing cartons, was announced by Adolph Gottscho, Inc., Hillside, N. J. One or more machines are attached to a conveyor, and packages are marked as they move along the conveyor. The machine marks codes, dates, varieties, sizes, colors, lot numbers, and your own tradename. (A-277)

Two Homogenizer Models

Manton-Gaulin Mfg. Co., Everett, Mass., announced two new additions to its line of homogenizers. The homogenizers are K6-X, with capacities from 300 to 1,000 gals. per hr.; and K12-X, with capacities from 500 to 2,000 gals. per hr. The two models have drive improvements to provide increased capacity. (A-278)

Redesigned Tension Unit

A combination three-post, two-post, and adjustable-post disk-type tension unit is a feature of the redesigned Tension-Master manufactured by Edward J. McBride Co., Inc., Philadelphia, Pa. The device permits a greater range of tension variation than the previous model and requires less time for adjusting. (A-279)

Pot Eyes

A new line of stainless-steel free-wheeling pot eyes was developed by Mount Hope Machinery Co., Taunton, Mass. Designed to make possible long pulls on all types of fabric, the pot eyes are 14 ins. in dia., with a 6-in. hub and a 6-in. span between flanges. (A-280)

REGULATING, MEASURING, ETC.

CONTINUED FROM PAGE 138

Tension Analyzer

Better tension control in spinning, winding, and warping is possible with a new model of the Brush Tension Analyzer, which is available from Brush Electronics Co., Cleveland, Ohio. The analyzer accurately measures and records actual tension levels, and tension variations in any filamentary material while it is being processed. (A-281)

Moisture Balance

An improved balance for moisture determination was announced by Torsion Balance Co., Clifton, N. J. The new balance has a single calibrated stainless-steel beam and a vernier slide weight with coarse and fine adjustments, which allows the accurate determination of moisture in a 10-gram sample, from 0.1 to 100%. (A-282)

AUXILIARIES

CONTINUED FROM PAGE 143

Rubberknit 118 was introduced by Richmond Oil, Soap, & Chemical Co., Philadelphia, Pa. The product is an antistatic lubricant specially designed to use on covered or uncovered rubber yarns. (B-84)

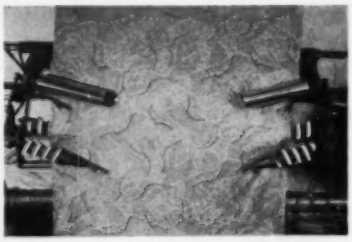
Dexolene G, B, and MTV were marketed by Dexter Chemical Corp., New York, N. Y., as levelers and penetrants in package or skein dyeing and as finishing assistants. Dexolene MTV is a low-foaming product designed for high-speed processing. (B-85)

Calcofluor White RWS was offered by American Cyanamid Co., Dyestuff Dept., Bound Brook, N. J. The optical whitener is particularly suitable for wool, nylon, acetate, and silk and can be applied by padding or in final rinsing. (B-86)

Silicures, marketed by Unodex Products Co., Inc., Elizabeth, N. J., are metallic soaps used to cure silicone resins. Those organic compounds of zinc and zirconium cover a wide range of treating methods. (B-87)

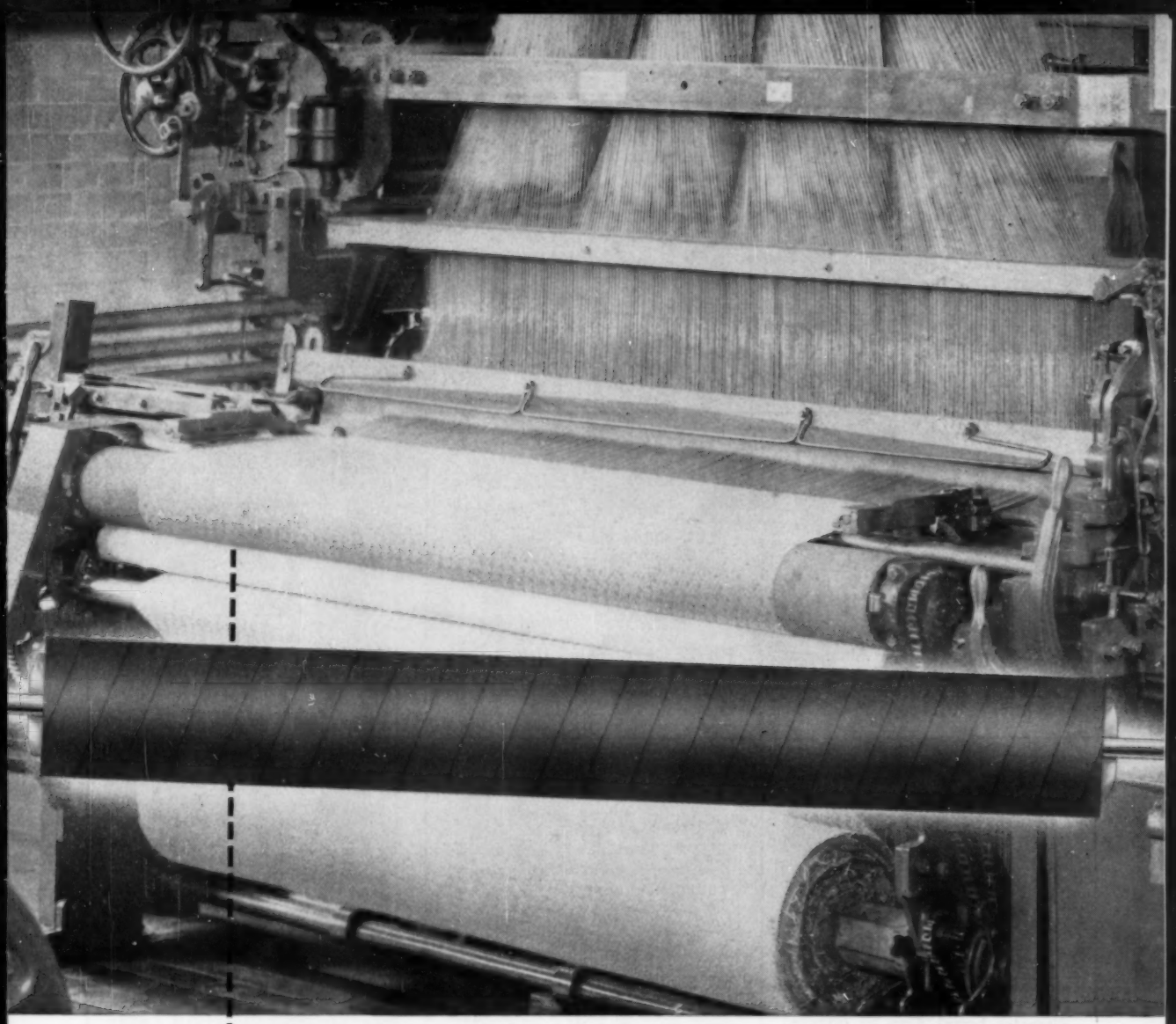
EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 158



Selvage Uncurler

Auxiliary uncurlers to be used with or without air-operated guides have been announced by Guider, Roll & Service Co., Box 3747, Peninsula Sta-



Non-marking roll covering delivers high take-up tension

Armstrong NO-732 Take-Up Roll Covering gives you non-marking smoothness plus high frictional grip because it's made of an unusual synthetic rubber compound.

This compound has an even, finely textured surface that handles all kinds of cloth—without the slightest danger of marking. Yet this same compound has just the right surface friction to give uniform take-up tension from selvage to selvage. In fact, the remarkable NO-732 Covering has up to twice the holding power you'd normally expect from synthetic rubber!

It's easy to test NO-732's firm grip—and non-marking smoothness. Just rub a sample over the cloth you weave. See how it "grabs" with little pressure. Then *feel* NO-732's even surface and you'll know why it won't mark fabrics.

A sturdy fabric backing gives the NO-732 Covering extra strength, good adhesion to the roll. And like all Armstrong Loom Supplies, this covering is designed to give years of dependable service. Your Armstrong man will be glad to help you set up a loom test of NO-732.

For the booklet, "Armstrong Textile Roll Coverings and Mill Supplies," write Armstrong Cork Company, Industrial Division, 6902 Dauphin Street, Lancaster, Penna.

Armstrong LOOM SUPPLIES

... used wherever performance counts

LOOM CLUTCH DISCS AND INSERTS • PRESS ROLL COVERING • TEMPLE ROLL COVERINGS
LOOM BRAKE AND LET-OFF STRIPS

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The World's Largest Producer of Light Metal Beams

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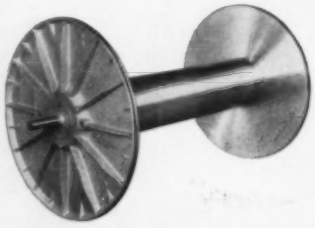
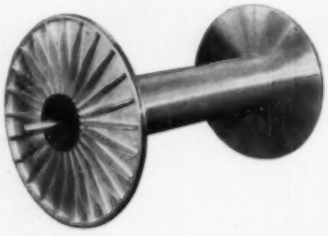
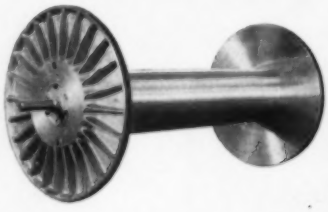
HAYES LIGHT METAL BEAMS cut costs in modern textile production, and help toward *higher profits* due to true running, perfect balance, elimination of snagging or catching with the highly polished finish of inside head faces, rust-proof construction, low maintenance costs, and fewer fabric rejects. Illustrated are only a few of HAYES LIGHT METAL BEAMS for standard production purposes. Our skilled engineering staff can help you. *Write, phone, or wire us your problem today.*



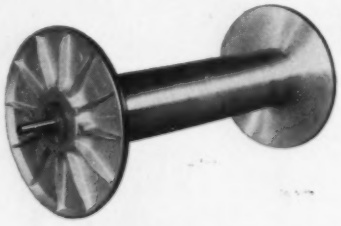
HAYES 38" x 54½" Aluminum Section Beam for cotton and spuns. Lightweight 207 lbs. Capacity, net weight of yarn 1,050 lbs.



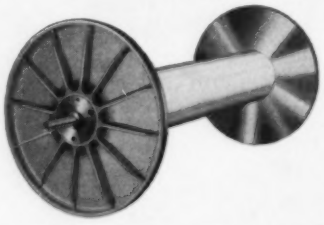
HAYES 36" x 54½" Heavy Duty Aluminum Section Beam for acetate, spuns, and cotton. Can be adapted to all standard warpers.



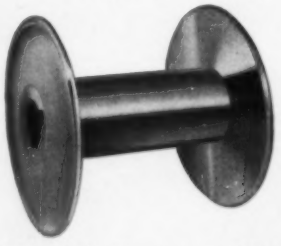
HAYES Heavy Duty Section Beam for nylon. Can be furnished in 30" and 32" diameter heads. Barrel diameter 11¾". ½" minimum wall.



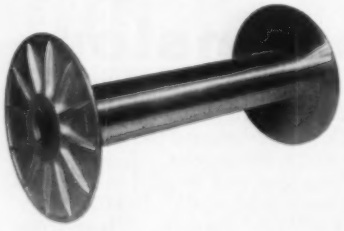
HAYES Bolted Type Section Beam for acetate. 30" x 54¼". 11¾" diameter barrel. Can be adapted to all standard warpers.



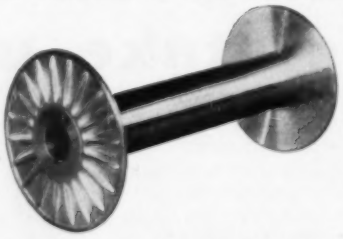
HAYES Aluminum Section Beam for acetate. Screwed type. Head sizes 26", 28", 30", 32". 54¼" traverse. 11¾" diameter barrel. Can be adapted to all standard warpers.



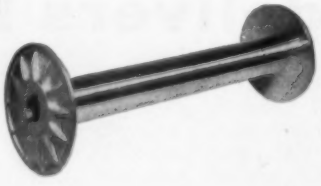
HAYES 21" Aluminum TRICOT Beam for nylon. Barrel size 7¾" diameter. Head thickness 1". Furnished in ⅜" and ½" wall. Bored for 4½" shaft. Keyways 9/16".



HAYES 21" Aluminum TRICOT Beam for acetate. Barrel 7⅜". Head thickness 1". Any desired traverse. Bored for 4½" shaft. Keyways 9/16".

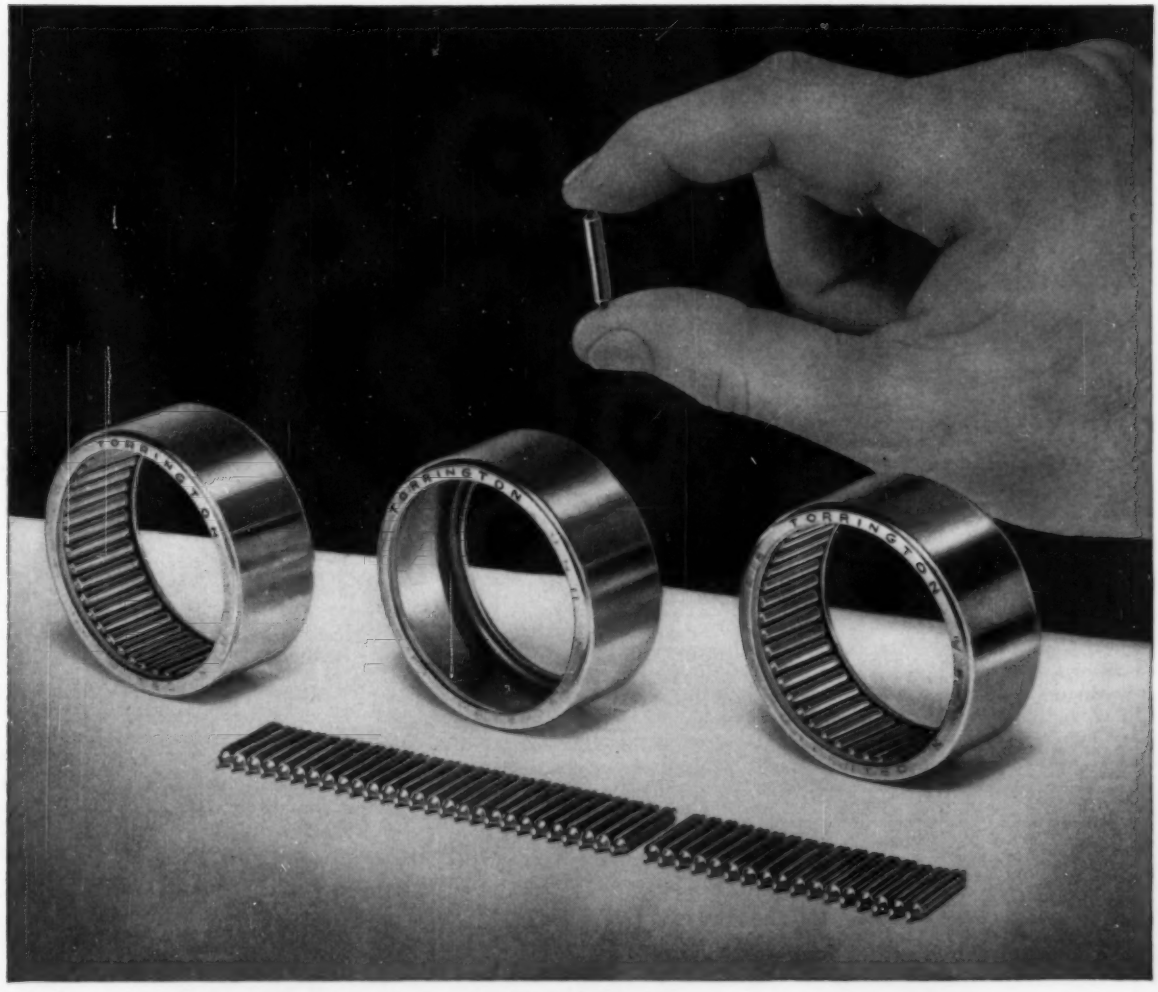


HAYES 21" Heavy Duty Forged Head Aluminum TRICOT Beam for nylon. Head thickness 1¼". Barrel 7¾". ½" wall. 39-7/16" traverse. Bored for 4½" shaft. Keyways 9/16".



HAYES 13¾" diameter Aluminum TRICOT Beam for acetate. Barrel size 4.925" diameter. Made in head thicknesses of 39/64" and 1". Traverse dimensions to suit. Bored for 2¾" shaft. Keyways 9/16".

HAYES manufactures a variety of Aluminum Loom Beams to fit Draper, and Crompton & Knowles looms, for acetates, spuns, and nylon. These can be manufactured with fixed or adjustable heads in sizes from 22" to 32" diameters.



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This Needle Roller is the "work horse" of the Torrington Needle Bearing. Its jewel-like precision is the key to smooth performance of the Needle Bearing. That's why in every manufacturing step—from alloy selection to final polishing—the rollers are checked against strict quality controls.

A full complement of Needle Rollers, mounted in a precision-made, case-hardened retaining shell, provides a maximum number of contact lines, giving the Torrington Needle Bearing a higher radial load capacity than any other bearing of comparable size.

The Torrington Needle Bearing delivers top anti-friction performance—with low coefficient of both starting and running friction.

For more than twenty years, our Engineering Department has helped designers and manufacturers throughout industry to adapt the unique advantages of the Needle Bearing to their products. Let us help you make the Needle Bearing "standard equipment" in yours.

See our new Needle Bearing Catalog in the 1956 Sweet's Product Design File —or write direct for a catalog.

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Give you these benefits

- low coefficient of starting and running friction
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- long service life
- compactness and light weight
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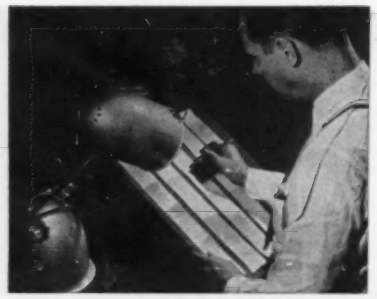


Magical Black Light Ends Color Matching Rejects

Here at last is a method that takes the guesswork out of color matching — and eliminates rejects. Under Blak-Ray light, even the slightest variations in color tones are visible. Plants report that preliminary inspection under black light is saving its cost every week by eliminating rejects before they happen.

Result: yarn and fabric manufacturers—spinners, weavers, knitters, finishers, bleachers, printers and throwsters — are fast adopting the black light system.

Full details are given in new Case History #111X, available free from the **Black Light Corporation of America,** Distributors for Ultra-Violet Products, Inc. 5114 Walnut Grove Avenue; San Gabriel, California. Distributors in principal cities.

FRANCIS WILLEY & CO.

STANDARD WORSTED TOPS
TOPS
SPECIAL TOPS

SOUTHERN REPRESENTATIVE
WILLIAM T. CHEATHAM & COMPANY
BURLINGTON, N. C.

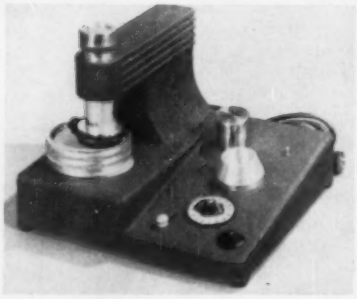
300 SUMMER STREET

BOSTON 10, MASS.

tion, Daytona Beach, Fla.

The uncurler has two spiral rolls that fit before and behind the cloth. The spirals revolve as the cloth passes between them. The angle of placement and tension against the fabric are adjustable. Spirals are made of hardwood or may be fitted with special rubber contact surfaces.

Circle T-16 on Reader-Service Card



Pilling and Wear Tester

Fabric Development Tests, P. O. Box 45, Brooklyn 32, N. Y., has announced an improved pilling and wear tester. A 5-min. test using new durable wear-pill abradants gives a better definition of lower levels of pilling with clear-finished woven fabrics.

Another wear disk and modified sample holder give improved results with knitted and soft woven fabrics. An 8-sec. test on spun knit goods measures how readily pills will form. A 1-min. test shows how much pilling may be expected with continued more-severe wear. The same 8-sec. test is used to measure the nap cohesion of fulled or napped fabrics.

Rubber, plastic films, and coatings are tested with a 3K wear disk. The new abradants give greater durability and uniformity and reduce replacement costs.

Circle T-17 on Reader-Service Card

Sewing Machine

The Mauser Series F sewing machine made by Industrie-Werke, Karlsruhe, Germany, is characterized by extremely high-speed operation from 4,500 to 6,000 stitches per minute.

Fully automatic lubrication from a central supply insures continuous operation. Needle bearings and ball bearings are used on all high-speed bearings. The Series F machine is supplied in various models for hemming, felling, trim attachment, and elastic attachment or insertion.

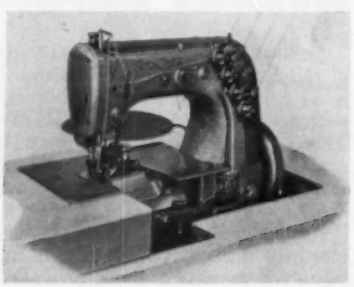
Circle T-18 on Reader-Service Card

Fabric Burst Tester

A fabric-burst-strength tester, Model TE-5761, has been developed by Pacific Airmotive Corp., 2940 N. Hollywood Way, Burbank, Calif. The burst-indicating gauge records the maximum burst pressure required and establishes a residual pressure reading to allow determination of the true burst value.

The tester features a complete hydraulically operated system energized by a ½-hp. electric motor. A safety control prevents damage to the unit even when the operating handle is held in the actuating position after the sample burst.

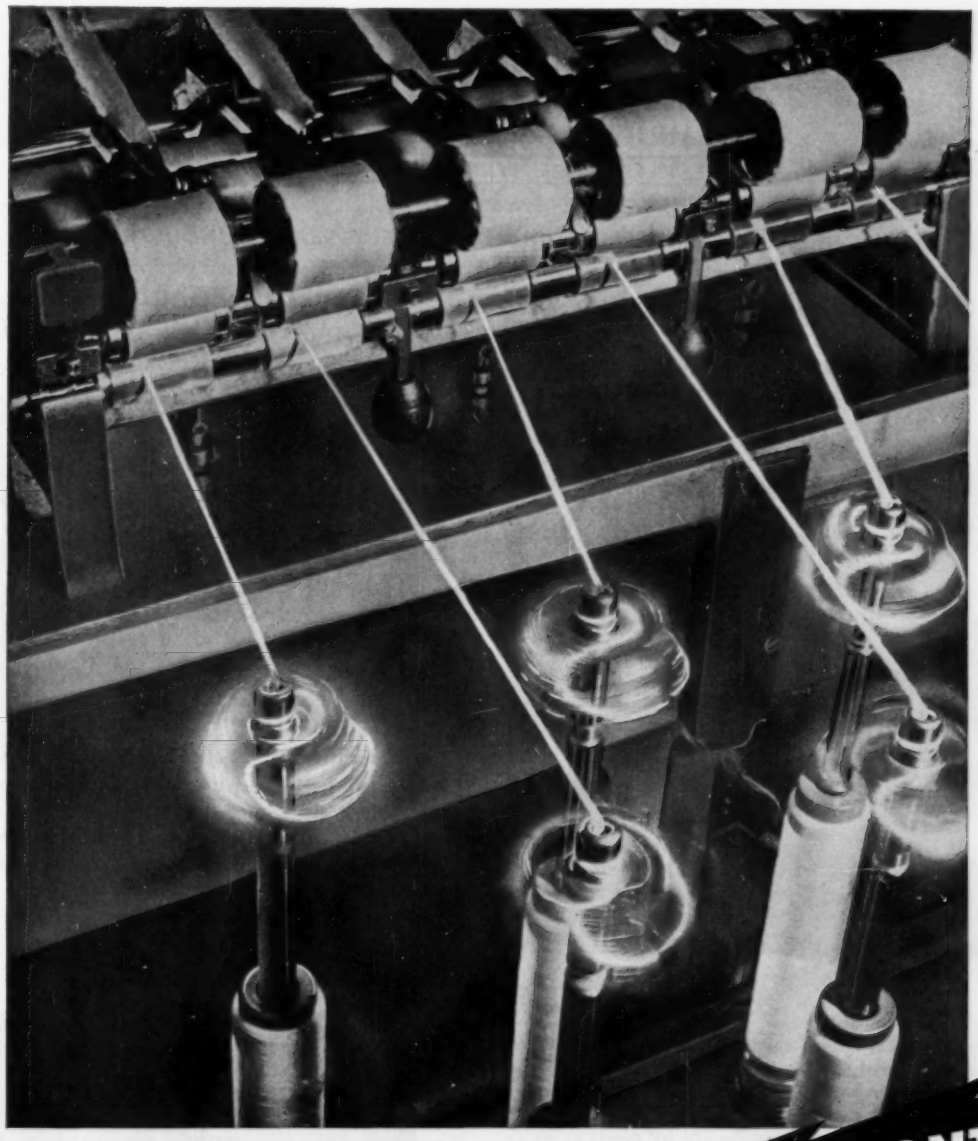
Circle T-19 on Reader-Service Card



Industrial Sewing Machine

A two-needle top-feed sewing machine that will trim, bind, and sew in one operation has been introduced by Union Special Machine Co., 400 N. Franklin St., Chicago 10, Ill.

The style 51400 BJ machine handles light- and medium-weight materials and performs a variety of seaming



BORNE-STAT means "STATIC CONTROL" at Low Cost!

BORNE SCRYMSER Since 1874

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Today—mill after mill acclaims BORNE-STAT as a cost-cutting "anti-static" concentrate. For when 1%-2% BORNE-STAT is added to Textile Fibers both Natural and Synthetic—the uniform result is superior static control at low cost.

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BORNE, SCRYMSER COMPANY Elizabeth, N. J. • Charlotte, N. C.

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ENGINEERING & MANUFACTURING CO.

WILKES-BARRE, PENNA.

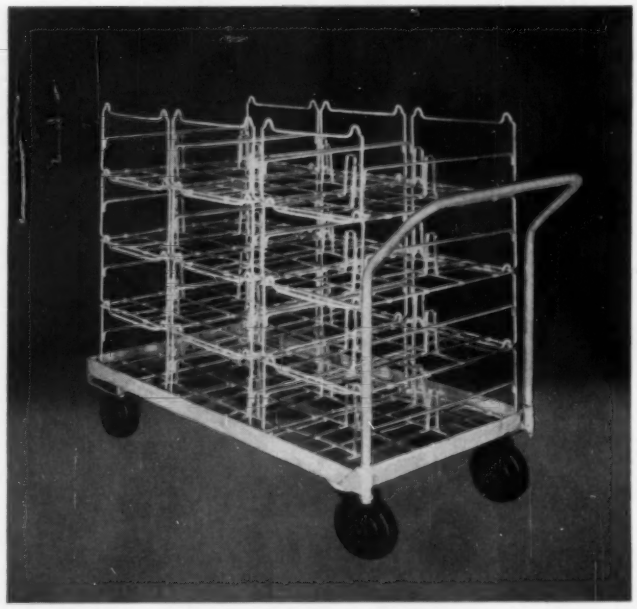
Successor to Johnson Eng. & Mfg. Co.

★ ★ ★

SPECIALIZING IN STAINLESS STEEL PRODUCTS FOR THE TEXTILE INDUSTRY

STERLING SELF-STACKING BOARDS

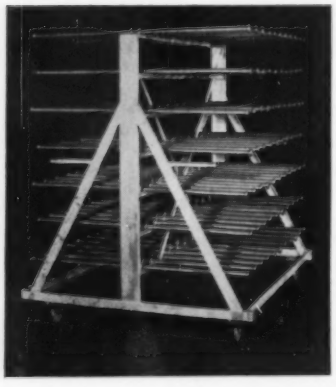
Stainless Steel or Cadmium Plated



U. S. and Foreign Patents and Patents Pending.

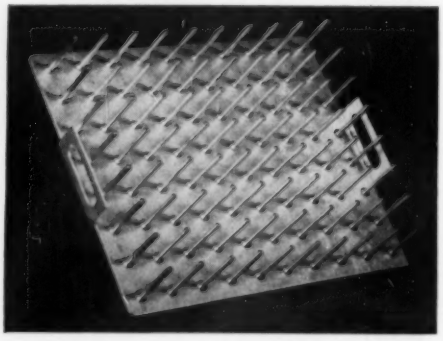
The new Sterling Self-stacking Board made of Stainless Steel eliminates your rust problem forever. When stacked, the Sterling offset handle locks the boards into a unit of any height that can be easily moved on a skid. The boards are strong, lightweight and made for durability by electric welding. This specially designed truck fits the self stacking boards.

STERLING CAKE DRYING TRUCK



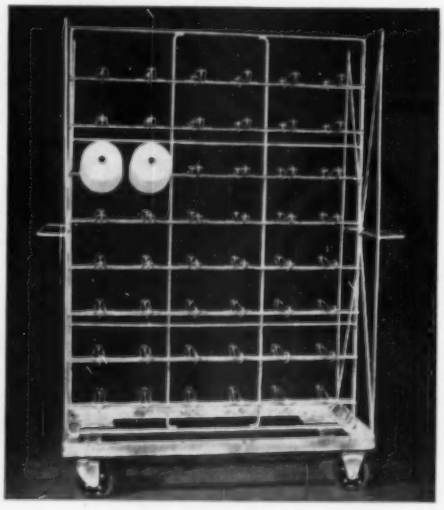
Made to your size specifications—to fit your dryer—these Sterling trucks combine a cadmium plated steel frame for strength with lightweight aluminum arms to hold the yarn.

STERLING BOARDS FOR AUTOMATIC QUILL-WINDING MACHINES

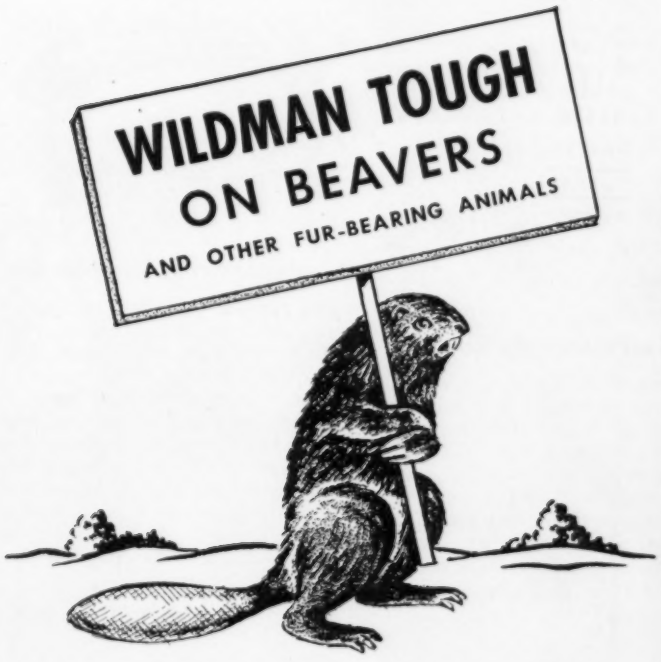


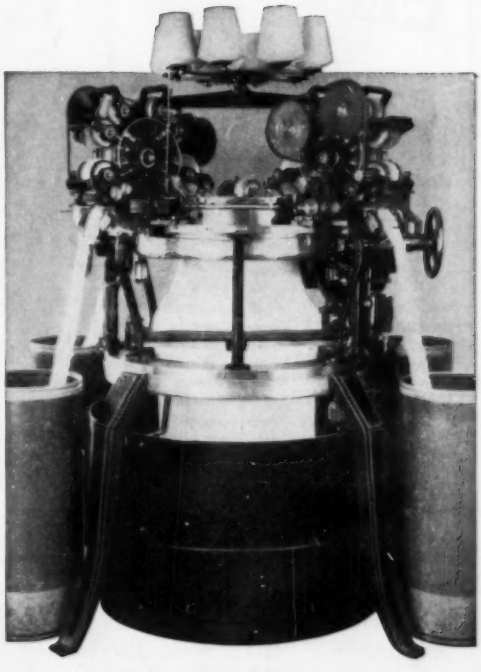
The lightweight, easy-to-handle aluminum base can be fitted with either aluminum or stainless steel pins to meet your needs. These boards are available in the standard size shown (12″ x 15″) or in any special size you desire.

STERLING YARN HANDLING TRUCKS



Provide efficient transportation of yarn on cones, tubes or bobbins. Made with any number of holders or pins in any spacing to suit your individual needs.





This machine can't chew up trees, but it can and does produce an amazing variety of fur-like fabrics for a waiting market. By means of an unusual fiber carding attachment, raw staple is fed to knitting needles, and then locked together with regular knitting yarn formed into backing fabric of plain jersey construction.

HIGH PILE FABRIC
KNITTING MACHINE

Uses Any Type or Size of Staple

Natural fibers as well as Orlon, Nylon, Rayon, Acrilan, Dynel or any other synthetics by themselves or in combinations with natural fibers. Staple size can range from ¾ inches and up—producing an almost unlimited number of fleecy and fur-like fabrics. Depth of pile is determined by the size of staple fed into the carding attachment . . . We will gladly arrange for a demonstration of this profit-building machine at your convenience. Inquire today for complete technical details.

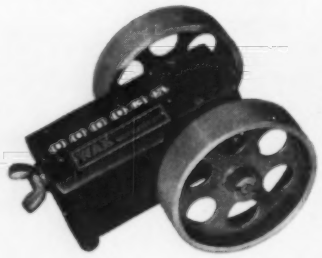
WILDMAN *makes the machines that tend to their own knitting.*

WILDMAN MFG. COMPANY, NORRISTOWN, PA.

Manufacturers of: **FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS**

 For more information, write direct or use Reader-Service post card.

YOU CAN COUNT ON WAK* COUNTERS



Hank Clocks
Rotary Counters
Tenter Counters
Inspection Counters
Pick Clocks
Twister Clocks
Hosiery Counters
Pairing Counters
Yardage Counters
Slasher Counters
Sewing Counters
Special Counters

* T.M. Reg. U. S. Pat. Office

See Our Representative, or Inquire Direct

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Leaves air mint fresh!

Mintol
the multi-purpose industrial disinfectant with the fresh mint leaf aroma

MINTOL disinfectant has a coefficient of 9. Diluted half a cup to the pail of water, it meets the new Use Dilution Confirmatory Test.

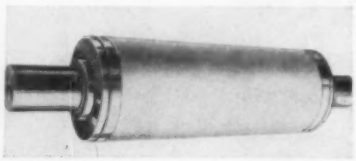
KILLS BACTERIA
SANITIZES THE SURFACE
DEODORIZES

For free sanitary survey of your premises ask your Dolge service man

Dependable DOLGE
WESTPORT, CONNECTICUT

and binding operations on sleeves, pockets, and back and side seams. All other features of the 50000 series are included.

Circle T-20 on Reader-Service Card

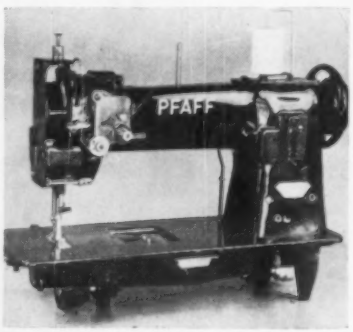


Textile-Processing Rolls

An improved line of pressed rolls for textile processing has been announced by H. W. Butterworth & Sons Co., Bethayres, Pa.

The rolls can be supplied filled with cotton, wool, husk, or the usual combinations, for water mangles, plain calenders, chasing calenders, friction calenders, or Schreiner calenders.

Circle T-21 on Reader-Service Card



Heavy-Duty Sewing Machine

Designed for canvas, plastic goods, leather, and other heavy fabrics, two sewing machines, single- and double-needle types, have been announced by Pfaff Industrial Sewing Machine Co., 82 N. Clinton St., E. Orange, N. J.

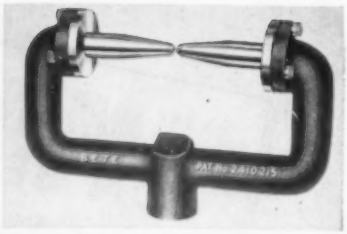
The machines work at speeds up to 3,000 stitches per minute and have a unique hook construction that eliminates the need for tight tension. Synthetic-fiber threads are easily managed with this reduced-tension feature.

Circle T-22 on Reader-Service Card

Edge-Guide Control

Askania Regulator Co., 240 E. Ontario St., Chicago, Ill., has perfected an air-operated edge-guide control for light duty. Designed for cutters and laminators handling moderate-size rolls, the unit comes complete with standard sensing nozzle, hydraulic pumps, and necessary auxiliaries.

Circle T-23 on Reader Service Card



Automizer Has Two Nozzles

An automizer nozzle featuring opposed jet impingement has been announced by Bete Fog Nozzle, Inc., 309 Wells St., Greenfield, Mass.

The nozzles are said to result in high efficiency at any operating pressure. They also provide uniform drop size. The interior of the nozzle tips produces laminar flow at the point of impingement where a clear laminar sheet is generated. This sheet, in turn, breaks up into extremely fine droplets of uniform size.

Circle T-24 on Reader-Service Card

Coffee-Vending Machine

A coffee-vending service, using a machine that percolates coffee, is offered by Interstate-United Coffee Corp., 1723 S. Michigan Ave., Chicago, Ill. The machine, called Perk-O-Fresh, uses fresh ground coffee as it serves.

Circle T-25 on Reader-Service Card

NEW DYES & CHEMICALS

CONTINUED FROM PAGE 160

line Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Circle D-11 on Reader-Service Card

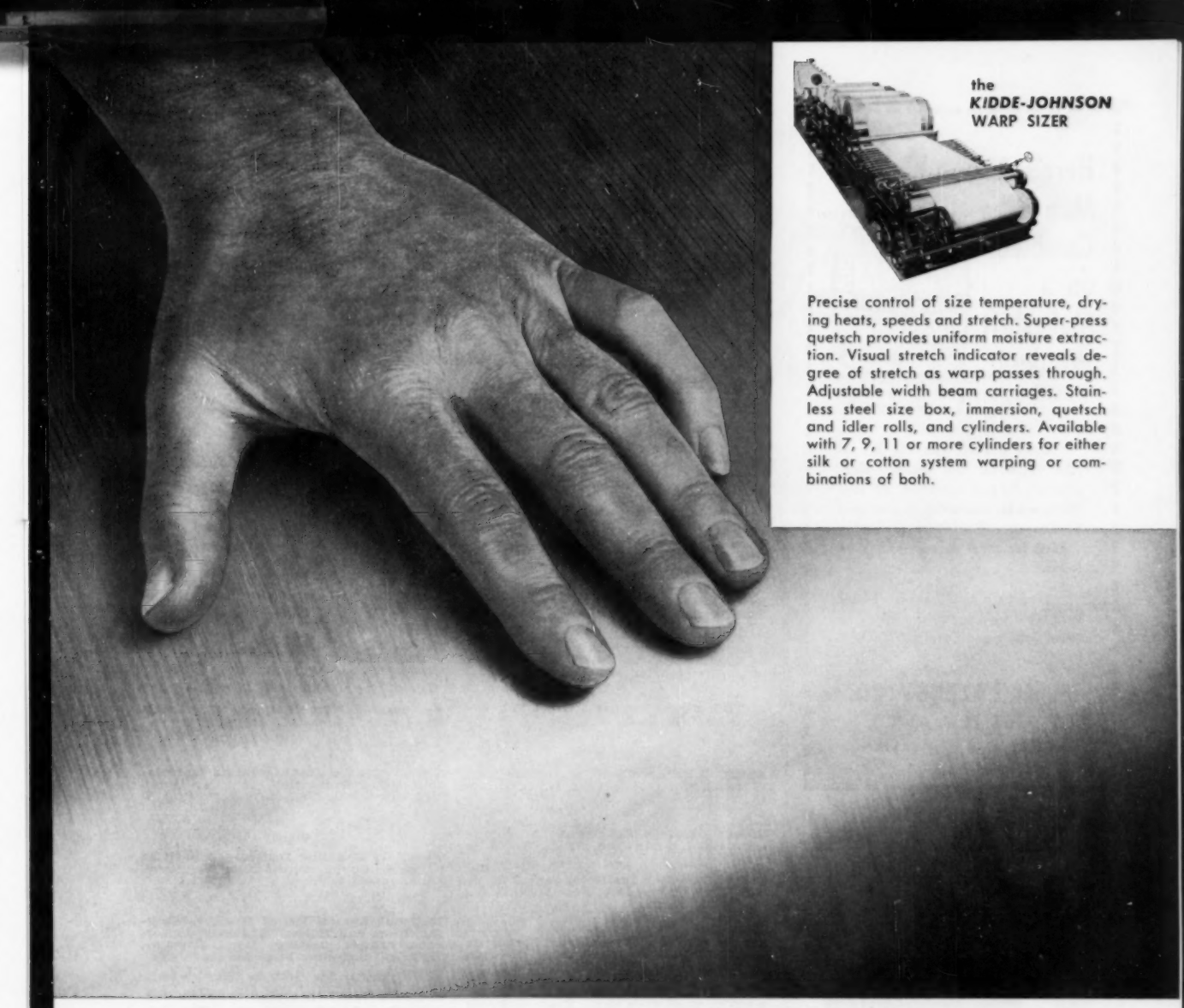
Red Pigments

Hiltone Red DCX . . . is characterized by excellent resistance to dry cleaning and washing when tested by AATCC No. 4 wash test and the AATCC dry-cleaning test. Also fast to perchlorethylene dry cleaning. The pigment produces a clear, yellow shade of red that has good lightfastness and will withstand plissé and fusing.

Hiltone Red BLC (ITR type) . . . is a bluer shade of red that is also fast to dry cleaning and laundering.

Hiltone Red G . . . is a red pigment of high color value that is fast to perchlorethylene dry cleaning and passes the standard wash test. Hilton-Davis Chemical Co., Cincinnati, Ohio.

Circle D-12 on Reader-Service Card



the
KIDDE-JOHNSON
WARP SIZER

Precise control of size temperature, drying heats, speeds and stretch. Super-press quetsch provides uniform moisture extraction. Visual stretch indicator reveals degree of stretch as warp passes through. Adjustable width beam carriages. Stainless steel size box, immersion, quetsch and idler rolls, and cylinders. Available with 7, 9, 11 or more cylinders for either silk or cotton system warping or combinations of both.

Do your slashers meet these 5 tests?

1. Do they give you warps on which the amount of size is even from one end to the other and uniformly dried so that there is no trace of streaks?

2. Do they give you visual, fingertip control of stretch so that you can get uniform stretch through the entire warp or a whole series of warps?

3. Do they give you hard, smooth loom beams that do not make trouble for the weave room nor reduce loom efficiency?

4. Do they perfectly size any fiber you want to put through them, cotton or synthetic, spun or filament?

5. Do they run without breakdowns, 24 hours a day, turning out a steady stream of all the warps your weaving department needs?

If they do . . . *then they must be KIDDE-Johnsons!* If not, write us today for complete details of this world-famous warp sizer.

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS
BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS

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Here's A Man Who Gambled on a Makeshift Winder!

Don't gamble with the life of your machines. Get winders made precisely for your operation. All your filling winder needs can be answered by Lazenby. Cop, Butt or Bobbin winders for either automatic or plain looms.

Send us a small supply of your yarn, we'll wind and return with Test Wind Report and Catalog.

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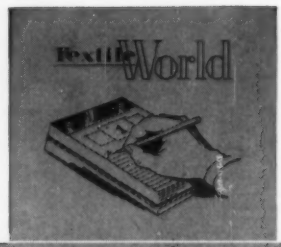
STATIC

Now there is a *guaranteed* means for its elimination! The SIMCO "*Midget*" is guaranteed to be the most effective neutralizer available. There is a static bar designed for every textile application, and for every material . . . including new *shockless* bars. Equip your machinery now!

the SIMCO company
920 Walnut St.
Lansdale, Pa.



CALENDAR

February

AATCC, Pacific Southwest Sect., Gourmet Restaurant, Beverly Hills, Calif., Feb. 6.

American Society for Quality Control, Textile Div., sixth annual conference, Institute of Textile Technology, Charlottesville, Va., Feb. 13 to 15.

Seventh Annual Cotton Research Clinic, Pinehurst, N. C., Feb. 15 to 17.

Tompkins Textile Council of the School of Textiles, N. C. State College, open house, Raleigh, N. C., Feb. 18.

AATCC, New York Sect., Hotel Delmonico, New York, N. Y., Feb. 24.

March

ASTM, Committee D-13, spring meeting, Warwick Hotel, New York, N. Y., March 13 to 16.

AATCC, Hudson-Mohawk Sect., Johnstown Hotel, Johnstown, N. Y., March 16.

Textile Research Institute, annual meeting, Hotel Commodore, New York, N. Y., March 22 and 23.

Southern Textile Methods and Standards Association, spring meeting, Clemson House, Clemson, S. C., March 22 & 23.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., March 23.

April

American Society for Quality Control, spring meeting, Clemson House, Clemson, S. C., April 5 & 6.

American Cotton Manufacturers Institute, annual meeting, Hollywood Beach Hotel, Hollywood, Fla., April 5 to 7.

Annual Packaging Conference, American Management Association, Atlantic City, N. J., April 9 to 11.

Alabama Cotton Manufacturers Association, annual convention, Buena Vista Hotel, Biloxi, Miss., April 11 to 13.

National Knitted Outerwear Association, Waldorf-Astoria Hotel, New York, N. Y., April 18 and 19.

Phi Psi Textile Fraternity, annual convention, Alabama Polytechnic Institute, Auburn, Ala., April 19 to 21.

Cotton Manufacturers Association of Georgia, annual convention, Emerald Beach Hotel, Nassau, Bahama Islands, British West Indies, April 25 to 28.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., April 27.

National Association of Hosiery Manufacturers, annual convention, Boca Raton Hotel and Club, Boca Raton, Fla., April 28 to May 1.

May

The Fiber Society, spring meeting, The Clemson House, Clemson, S. C., May 2 and 3.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., May 18.

Southeastern International Industrial Exposition, Lakewood Park, Atlanta, Ga., May 18 to 25.

Tufted Textile Manufacturers Association, national meeting, Cavalier Hotel, Virginia Beach, Va., May 31 to June 2.

June

Materials Handling Institute Exposition of 1956, Public Auditorium, Cleveland, Ohio, June 5 to 8.

National Association of Hosiery Manufacturers, and Hosiery Industry Conference, annual meeting, Hotel Roanoke, Roanoke, Va., June 14 to 16.

Southern Textile Association, annual convention, Mayview Manor and Green Park Hotel, Blowing Rock, N. C., June 21 to 23.

September

The Fiber Society, fall meeting, Warwick Hotel, New York, N. Y., Sept. 6 & 7.

AATCC, national convention, Waldorf-Astoria Hotel, New York, N. Y., Sept. 10 to 12.

Combed Yarn Spinners Association, Cavalier Hotel, Virginia Beach, Va., Sept. 27 & 28.

October

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 1 to 5.

North Carolina Textile Manufacturers Association, annual meeting, The Carolina, Pinehurst, N. C., Oct. 10 to 12.

ASTM, Committee D-13, fall meeting, Warwick Hotel, New York, N. Y., Oct. 16 to 19.

International Knitting Machinery & Accessories Exhibition, Granby Halls, Leicester, England, October 17 to 27.

REINER Offers Everything You Want IN A CREEL

REINER CREELS—

The most modern in use—have many features. Time-tested and proved in mill operation, they provide for savings in labor—producing better warps at higher speeds. They are readily adaptable to pirns of all sizes and all types of cones or cores.

Reiner magazine or single type creels give unmatched performance for any space or functional requirement. Truck creels for quick doffing are also available.

Reiner offers a full line of warpers and beamers.

All Reiner equipment is readily adaptable for use with units of other make.

From Cone to Knitted Fabric—From Creels to Warpers—From Knitting Machines to Tenter Frames—You Can Depend On Reiners For Superb Workmanship, Low-Cost, Profitable, Efficient, Trouble-Free Production!

REINER PATENTED TENSION CONTROLS for Quality Production

REINER'S PATENTED TRIPLEX TENSION provides for an endless variety of settings of delicate yarns at top speeds. A metal guard protects against ballooning yarn—eliminates breaking or nicking. Four different weights of tension washers meet all possible requirements. All posts are movable and the slots calibrated for easy setting. Alsimag or porcelain eyelets—tension posts available in Alsimag or satin-finish hardened chrome.

Other tension arrangements with single or double posts—tensions with loom type stop motions—tensions for crepe or special yarns—mercury—loom type—mechanical stop motions for any yarn or special requirements.

Write for complete details.

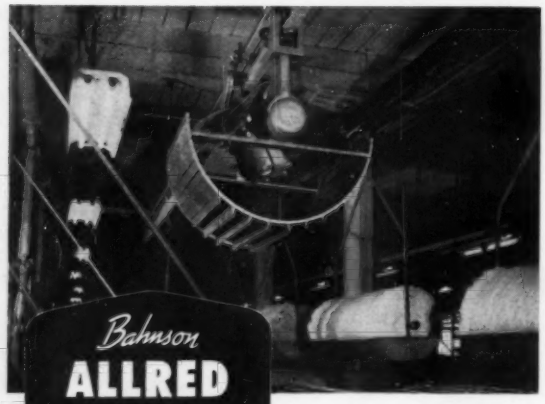
Also ask about the most recent addition to the complete Reiner line — the Reiner Warp Oiling Device.

ROBERT REINER INCORPORATED

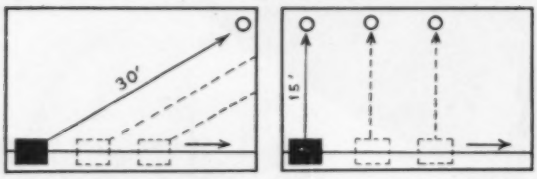
10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 **550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY**



Blows head-on at one-half the range of other cleaners . . . for better cleaning!



Other cleaners strike objective at angles from greater distances.

The Bahnson-Allred strikes objective directly at ½ the distance of other cleaners.

Blows Perpendicular to track to deliver direct, head-on air blasts. This special construction enables the Allred to clean more thoroughly with continuous head-on air blasts from ½ shorter range than other cleaners.

Cleans at Less Cost with greater efficiency. The Allred needs only a ⅓ horsepower motor for effective air delivery. (Available also with 1 H.P. motors for special applications.) Its head-on air blasts have been test-proven to clean more effectively than other approaches.

Patented Index Feature progressively adjusts the fan to clean selected areas in a pre-determined pattern. Pattern is easily set and varied for different needs.

Added Advantages. The Allred fan oscillates as it travels along the track to produce a varying angle of blow at each automatically adjusted setting. For further airflow control a U-Shield with adjustable vanes is furnished.

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for detailed information. Ask for Technical Bulletin 21-A

Bahnson
COMPANY
WINSTON-SALEM, N. C.

AIR CONDITIONING • CLEANING • VACUUM COLLECTION

NEWS about SUPPLIERS

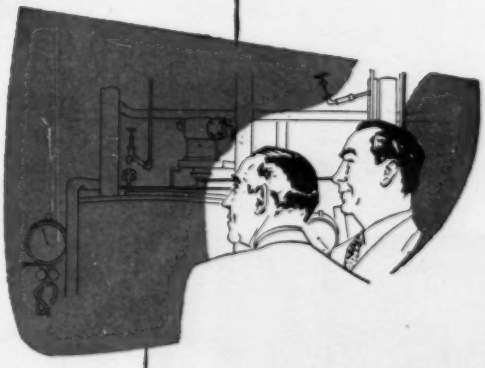
AIR REDUCTION CO., INC., New York, N. Y.—Has appointed Bernard Krashin president of the Colton Chemical Co. division of the company. . . . **ALLIANCE COLOR & CHEMICAL CO.**, Newark, N. J., and **BLACKMAN-UHLER CO.**, Spartanburg, S. C.—Have established five scholarships for students in textile chemistry at Lowell Technological Institute, Philadelphia Textile Institute, Clemson School of Textiles, and North Carolina State College. . . . **ALLIED CHEMICAL & DYE CORP., NATIONAL ANILINE DIV.**, New York, N. Y.—Has leased larger space at 261 Madison Ave. for the sales and service offices of Caprolan nylon. . . . **AMERICAN AIR FILTER CO., INC.**, Louisville, Ky.—Has elected W. M. Reed chairman of the board and W. G. Frank, president. . . . **AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS**, Lowell, Mass.—Has reelected Raymond W. Jacoby president. . . . **AMERICAN CYANAMID CO.**, New York, N. Y.—Is negotiating for the business and assets of Formica Co., Cincinnati, Ohio. . . . **AMERICAN ENKA CORP.**, New York, N. Y.—Has named O. Douglas Schumann an industrial technical salesman. . . . **AMERICAN PAPER TUBE CO.**, Woonsocket, R. I.—Has promoted Samuel F. Adams to Southern sales manager. . . . **AMERICAN VISCOSE CORP., TEXTILE RESEARCH DEPT.**, Marcus Hook, Pa.—Has promoted Warren K. Simons to head the Staple Technical Sales Div. G. William Byers has been promoted to head the Weaving Div. . . . **ATLAS POWDER CO.**, Wilmington, Del.—Has named Edward J. Massaglia assistant general manager of the chemicals division . . . **H. W. BUTTERWORTH & SONS CO.**, Bethayres, Pa.—Has been acquired by Van Norman Industries, Inc. Butterworth has withdrawn from its agreement to sell and service the textile finishing machinery made in Germany by A. Monforts Maschinenfabrik. Edward S. Pierce has been elected an assistant vice president of Butterworth. . . . **CLINTON FOODS, INC.**, Clinton, Iowa—Has sold its corn processing division to Standard

CELANESE CORP. OF AMERICA, New York, N. Y., has started the commercial production of Fortisan-36 in its new plant at Rome, Ga. Equipment is installed in the plant in three different floor levels and covers 60,000 sq. ft. of floor space.

because it's always uniform
and backed by Keever service

VICTOR
Mill Starch

is the weaver's friend



Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Processors of corn, wheat and blended starches for industry since 1898

Brands, Inc. . . . **COLUMBIA-SOUTHERN CHEMICAL CORP.**, Pittsburgh, Pa.—Has appointed Chris F. Bingham a vice president in charge of sales. W. F. Newton has been named director of sales and P. A. Fodor, Jr., has been named assistant director of sales. . . . **CONSOS, INC.**, Charlotte, N. C.—Has appointed Paul Bolen a technical and sales representative in Georgia, Alabama, and Tennessee. . . . **DIAMOND ALKALI CO.**, Cleveland, Ohio—Has named Clifford S. Hancock manager

DON W. LYON (left) has been elected general sales manager of the Textile Div., Libbey-Owens-Ford Glass Co., Toledo, Ohio. WILLIAM E. IANNONE (center) has been named Southern manager of Metro-Atlantic, Inc., Pigment Printing Colors Div., Greenville, S. C. PETER M. SHONK (right) has been named sales manager of the Textile Colors Div., Interchemical Corp., Hawthorne, N. J.

of silicate sales. . . . **EASTMAN CHEMICAL PRODUCTS, INC.**, Kingsport, Tenn.—Has appointed D. G. Carmichael chief consulting chemist. . . . **GEIGY CHEMICAL CORP., GEIGY DYESTUFFS DIV.**, New York, N. Y.—Has issued an educational film on moths and Mitin durable mothproofing, entitled "Insects Astray." The film is available for showing to consumer groups and home-economics classes. . . . **GENERAL ELECTRIC CO.**, Pittsfield, Mass.—Has named William F. Christopher manager of market development for the Chemical Development Dept. . . . **HEYDEN CHEMICAL CORP.**, New York, N. Y.—Has elected James K. Lindsay treasurer. Bernard Reiter has been elected assistant treasurer. . . . **HYSTER CO.**, Portland, Ore.—Has promoted Walter A. St. Clair to assistant sales manager of the Eastern Industrial Truck Div., Danville, Ill. . . . **KOPPERS CO.**, Pittsburgh, Pa.—Will handle the sales of textile dyes that have been made and sold by Pittsburgh Coke & Chemical Co. . . . **McDONOUGH FOUNDRY & MACHINE CO.**, Mc-

RUPERT RILEY (left) has been named to the sales staff of Pneumafil Corp., Charlotte, N. C. DAVID M. NASON (center) has been named director of the newly formed Industrial Products Div., American Safety Razor Corp., Staunton, Va. JOHN H. DREXLER, III, (right) has been transferred to the New York, N. Y., office of Goodyear Tire & Rubber Co., Chemical Div., as a special representative.

Donough, Ga.—Has changed its name to Machine & Foundry Div. of McDonough Power Equipment, Inc., as a result of the merger with Southern Saw Works, East Point, Ga. . . . **NATIONAL ASSOCIATION OF MANUFACTURERS**, New York, N. Y.—Has elected Ernest G. Swigert, president of Hyster Co., Portland, Ore., a national vice president. . . . **REFINED PRODUCTS CORP.**, Lyndhurst, N. J.—Has appointed George H. Rhodes a sales representative for the Central Eastern states. . . . **ROHM & HAAS CO.**, Philadelphia, Pa.—Has moved its

The Growth Factor

CROMPTON RICHMOND COMPANY INCORPORATED FACTORS

Crompton's steady volume growth comes from two sources: from old clients whose volume increase comes from the steady flow of cash we supply for receivables; and from new clients. The latter are in two categories: those who were never factored before coming to Crompton; and those who were factored but prefer the Crompton service.

All three types benefit from our flow of cash, our guidance, and our sympathetic understanding of their business problems.

The Human Factor

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1071 Avenue of the Americas, New York 18, N. Y.
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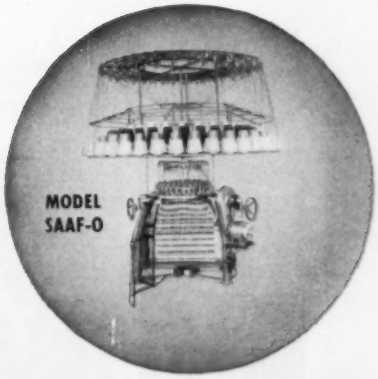
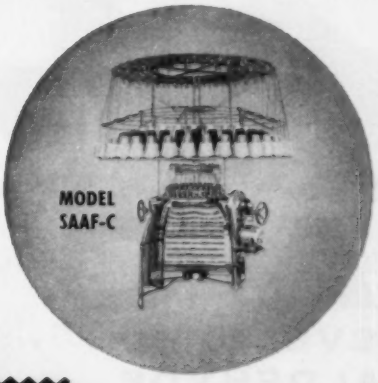
Glenn Building, Atlanta 1, Georgia



These features make SUPREME

the latest word in modernized, low-cost knitting
of automatic, variable striped, patterned or solid jersey
***with* or *without* knit-on simulated rib trim**
and draw thread section separators



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KNITTING MACHINE CO., INC.
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Southern Representative and Showroom:
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SUPREME'S NEW "PAY-AS-YOU-DEPRECIATE" FINANCING PLANS
The PAYD Plan

★
HIGH SPEED PRODUCTION
Large number of feeds, rugged construction and stationary yarnstand give you vari-striped and patterned fabrics at unprecedented rates. Standard 26" machine has 32 four color striping boxes — 32 three position pattern wheels—32 automatic pattern placers..

★
TREMENDOUS VERSATILITY
Striping boxes, pattern wheels and placers on every feed let you pour out an infinite variety of striking, multi-colored fabrics — with pattern inserts twice the size previously possible. Knit a wide variety of fabric construction and textures with virtually any type of natural or synthetic yarn.

★
HIGH QUALITY AT LOW COST
Knitting efficiency and quality are insured by these ingenious new features—128 cone, "step-design" (Pat. Pend.) yarnstand, new knitting elements system, new striping box with easy, manual setting, new pattern placer with slideable studs for fingertip control and new, scissor-type, synchronized "no-waste" cutters.

 For more information, write direct or use Reader-Service post card.

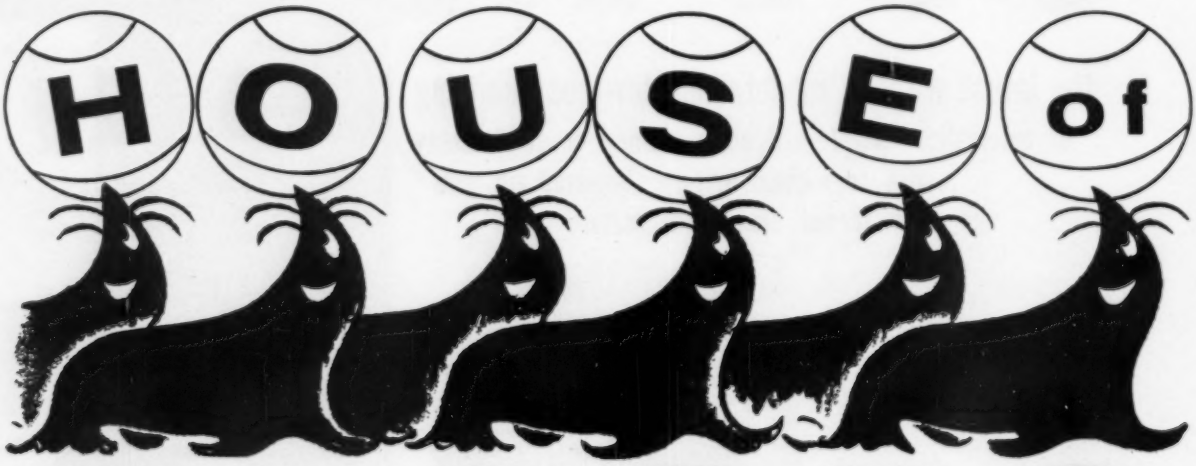
Atlanta, Ga., office to 1428 W. Peachtree St., N. W. . . . **SONOCO PRODUCTS CO.**, Hartsville, S. C.–Has opened a sales office in Longview, Texas. . . . **SQUARE D CO.**, Detroit, Mich.–Has acquired Electric Controller & Manufacturing Co. . . . **TAYLOR INSTRUMENT COS.**, Rochester, N. Y.–Has appointed George E. Heller assistant industrial sales manager. Warren Gray has been named manager of the Greensboro,

WILLIAM B. ROSS (left) has been appointed to the sales staff in Alabama and Tennessee for the Fairbanks Co., New York, N. Y. H. M. JACKSON (center) has been named to the sales staff in Alabama, Georgia, and Tennessee for Whitinsville Spinning Ring Co., Whitinsville, Mass. R. FRANK WALKER (right) has been named sales engineer in the South for Roberts Co., Sanford, N. C.

N. C., office; Roy Bailey has been named manager of the Houston, Texas, office; Jack Barker has been named manager of the Atlanta, Ga., office. . . . **THE TEXAS CO.**, New York, N. Y. –Has opened a regional office of the Technical Service Div. in Atlanta, Ga. . . . **UNION CARBIDE & CARBON CORP.**, New York, N. Y.–Has formed a Silicone Div. to handle development, manufacture, and sale of silicone products. William B. Humes has been appointed president of the division. E. L. Meadows has been appointed supervisor of marketing information services for the Carbide & Carbon Chemical Co. Div. . . . **USTER CORP.**, Charlotte, N. C.–Has named Jack W. Taylor a testing-equipment sales engineer. . . . **VEEDER-ROOT, INC.**, Hartford, Conn.–Has named Rex M. Bathurst plant manager of the Altoona, Pa., branch plant. . . . **WHITIN MACHINE**

WILLIAM E. HECHT (left) has been elected a vice president of Corn Products Sales Co., New York, N. Y. LARRY T. NELSON (center) of Larry T. Nelson & Co., Portland, Ore., has been named to represent Riggs & Lombard, Inc., in the West. A. F LIST (right) has been named sales manager of the Belting Div. of Russell Mfg. Co., Middletown, Conn.

WORKS, Whitinsville, Mass.–Has named Thomas P. O'Connell superintendent of erectors and has placed him in charge of factory building schedules, succeeding George F. McRoberts. Mr. McRoberts will devote his time to wider responsibilities in advertising. The company has moved its Atlanta, Ga., office to 728 Spring St., N. W. . . . **WIESNER-RAPP CO., INC.**, Buffalo, N. Y.–Has moved its Textile Div. to a plant on Chicago St.



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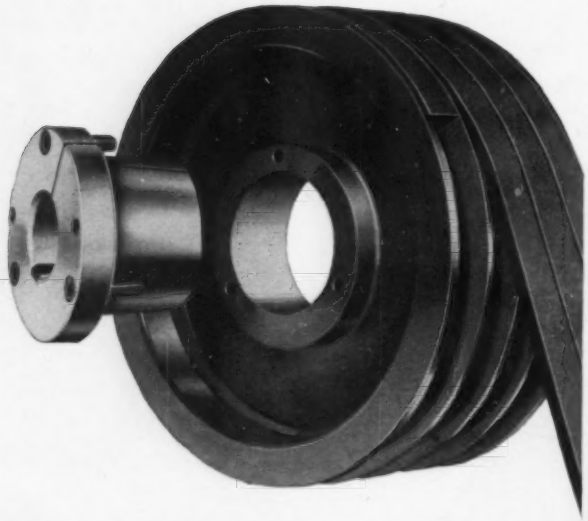
"HOW!"—This man is wondering how he can get needles for top-quality tufting. Silly, isn't it, when practically everybody knows one can get top-quality needles for tufting, felting, knitting *and* sewing from...**THE TORRINGTON COMPANY.**

Torrington, Conn., U. S. A. Branches in New York, Philadelphia, Boston, Chicago, Greensboro, St. Louis. Pacific Coast Representative: E. G. Paules, Los Angeles



The adjustable-speed wedgbelt drive is a Combination...

... of American Wedg-Tite Companion Sheaves, precision-matched to the same taper of the bushing, the exact sidewall angle of the belt. Machined to a satin finish, with accurate balance and concentricity, they lower frictional power-loss, increase plant efficiency.

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... of American Wedgbelts, mold-cured to vary less than ¼ of 1% in length, with strict uniformity in taper, thickness and width. Dacron* cords in Super-Service Wedgbelts are 2½ times stronger than rayon, withstand shock loads and high starting torques.

... of American Adjustable-Diameter Sheaves, allowing stepless speed variation by internal change of pitch diameter of the sheave. Simultaneous flange movement keeps belt alignment constant. Exclusive *double-taper* hub locks flanges in position, locks sheave tight to shaft ... assures positive speed control.

THE RIGHT COMBINATION FOR MAXIMUM VARIATION OF MACHINE SPEEDS

*Reg. TM. E. I. DuPont de Nemours & Co., Inc.

The American Pulley Company
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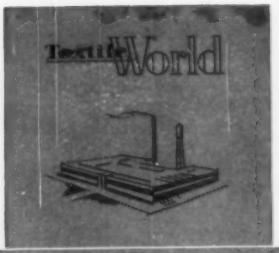
Philadelphia 29, Pa.



NEWS about MILLS

COTTON MILLS

Acme Spinning Co., Belmont, N. C., is installing Saco-Lowell drawing frames.

Deering, Milliken & Co., Inc., New York, N. Y., has placed an order for 40,000 spindles of Rieter cotton ring spinning frames, Model G4. Delivery will start in June. The mill in which the new frames will be installed has not been announced.

Florence Cotton Mills, Florence, Ala., has started a $200,000 expansion program. A new addition will provide 16,000 sq. ft. of floor space. Completion is expected by April.

Gaffney Mfg. Co., Gaffney, S. C., is installing air conditioning in the older sections of its plant.

Jackson Mills, Iva, S. C., has completed an 18,000-sq.-ft. addition to its plant. The additional space is being used to expand weaving and spinning operations.

Jefferson Mills, Jefferson, Ga., has completed a new finishing unit.

Katherine Rug Mills, Dalton, Ga., is adding 16,000 sq. ft. to its plant. Additional equipment for the carpet dyeing and finishing division will be installed.

M. Lowenstein & Sons, Inc., New York, N. Y., has acquired the complete cotton operations of Pacific Mills in Columbia and Lyman, S. C. The operation in Lyman will be known as Lyman Printing & Finishing Co. Donald B. Tansill is president of the new subsidiary, and John E. Crossland is vice president and general manager.

Joe L. Moore Co., Inc., Gadsden, Ala., has purchased mills at Kosciusko, Winona, Magnolia, and West Point, Miss., from the R. D. Sanders interests. All the plants will be put back in operation.

Newberry Mills, Inc., Newberry, S. C., is building an addition to its plant as part of a $1,000,000 expansion program. The addition will contain 40,000 sq. ft. of floor space. Machinery to be installed includes 366 looms and 20,000 spindles. The McPherson Co., Greenville, S. C., is the engineer and W. E. Baker & Son, Whitmore, S. C., is the contractor.

J. M. Odell Mfg. Co., Bynum, N. C., has ordered 16 Whitin Model F-5 spinning frames.

Osage Mfg. Co., Bessemer City, N. C. and **Grace Cotton Mills**, Rutherfordton, N. C., have merged with Reeves Bros., New York, N. Y.

Rex Mills, Inc., Ranlo, N. C., is building a 35,000-sq.-ft. addition to its mill.

Russell Mfg. Co., Middletown, Conn., has established a plant at Bennettsville, S. C., for the production of venetian-blind ladder tape.

Union Narrow Fabric Corp., Springfield, Mass., is building a $32,500 addition. Weaving facilities will be increased 50%.

West Boylston Mfg. Co. of Alabama, Montgomery, Ala., will install a unit of Saco-Lowell SG-1 spinning frames. The company expects to have 600,000 spindles of Gwaltney in operation by the end of 1956.

TYPE "DW"

Super-Speed WARPER

The new Barber-Colman Type "DW" Warper, shown above, has all the features of the familiar Type "VW" plus several new ones. A pivoted support moves the comb forward as the beam fills. The driving drum, clutch, brake, and motor are now arranged back of, rather than beneath, the beam. Construction throughout is larger and stronger, to handle the heavier loads of which this warper is capable. The Type "DW" Warper will wind slasher beams as large as 40" head. *For further details, please write for descriptive literature, or ask your Barber-Colman representative.*

40"-head BEAMS REDUCE COSTS

Using 24s yarn as an example, the new Type "D" 6-pound cheese holds 120,000 yards. A 40"-head section beam of 529 ends weighs 1,050 lbs. and holds 40,000 yards, resulting in 3 beams per cheese and reducing warper loadings accordingly. In the slashing, assuming 1200-yard loom beams, a 40"-head section beam will produce 39 loom beams per set, for an average of only 3.16 slasher creelings per 120-hour week.

USE BARBER-COLMAN INSPECTION AND SERVICE

For *all* your Barber-Colman machines, be sure to call on the Service Department of your nearest Barber-Colman office. The men who staff this organization are specially trained and equipped, with a wealth of experience in checking, maintaining, repairing, and modernizing all types and models of Barber-Colman equipment. They are backed by alert main and branch offices who see that they are supplied with complete and reliable parts and information.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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At last--an entirely *new* Slasher Cloth, with a well-cushioned body that assures far better slashing of yarn . . . unexcelled starch penetration . . . and greater resistance to abrasion! Extra high tensile strength minimizes tearing. Chemically treated--*at your option without extra charge*--to hold shrinkage at a minimum . . . combat chemical attack and increase service life. Made only from precision-blended, long length, finely selected wools, with rigid quality control in manufacture.

. . . and for All Your Industrial Textile Requirements

✓ **CLEARER CLOTH** . . . all wool or cotton back; highest quality—yet, low in price.

✓ **ROLLER CLOTH** . . . complete range of types, sizes, weights; all wool or part cotton.

✓ **LAPPING CLOTH** . . . cotton warp; either all wool, or part synthetic filling.

✓ **OTHER SPECIALTY WOVEN FABRICS** . . . developed at your request.

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NOONE INDUSTRIAL FABRIC DIV. KENWOOD MILLS

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The oldest manufacturer of woven industrial fabrics in America

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RAYON PLANTS & TEXTILE MILLS

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Supr-O-Tape increases production, cuts down time.

See page 200 of this issue.

NEWS ABOUT MILLS Continued

WOOLEN AND WORSTED MILLS

Albany Felt Co., Albany, N. Y., is building a 100,000-sq.-ft. plant in St. Stephens, S. C. Daniel Construction Co., Greenville, S. C., is the contractor.

Mohawk Carpet Mills, Inc., Amsterdam, N. Y., and **Alexander Smith, Inc.**, Yonkers, N. Y., have merged. The new company will be known as Mohasco Industries, Inc.

SYNTHETICS MILLS

Blackwelder Textile Co., Cherryville, N. C., is building a 10,000-sq.-ft. addition. About 2,500 spindles will be installed.

Cheraw Weaving Mills, Cheraw, S. C., is building a 10,000-sq.-ft. addition to its mill. Additional space will be used for finishing and inspecting.

Hess, Goldsmith & Co., Inc., Atwater Div., Plymouth, Pa., has installed a knitting and finishing research laboratory at its Texturing Plant No. 3, N. Wilkes-Barre, Pa. John Dievers has been named director of the laboratory.

Robison Rayon Co., Pawtucket, R. I., is building a branch plant to make novelty twisted yarns in Montezuma, Ga. Some of the new equipment has been purchased from Whitin Machine Works. Dennis E. Shea, Jr., will be resident manager and Frank S. McClelland, Jr., will be superintendent.

Slater Mfg. Co. Div., J. P. Stevens & Co., Inc., Slater, S. C., is building a 43,000-sq.-ft. addition. The addition will be used to rearrange the present operation. Cost is estimated at $300,000.

Stanley Mills Div., J. P. Stevens & Co., Inc., Stanley, N. C., has completed the spinning modernization program started in 1948. Pneumafil equipment has been installed on all spinning frames.

Tait Yarn Co., Lincolnton, N. C., is constructing a one-story addition to its mill. An additional 1,600 spindles will be installed.

KNITTING MILLS

Beaver Hosiery, Inc., Hickory, N. C., has leased the seamless-hosiery mill formerly occupied by John L. Lyerly & Sons, Inc., Catawba, N. C. New machinery has been installed. Marvin Bryant will be manager, and Delmar Cagle will be plant superintendent.

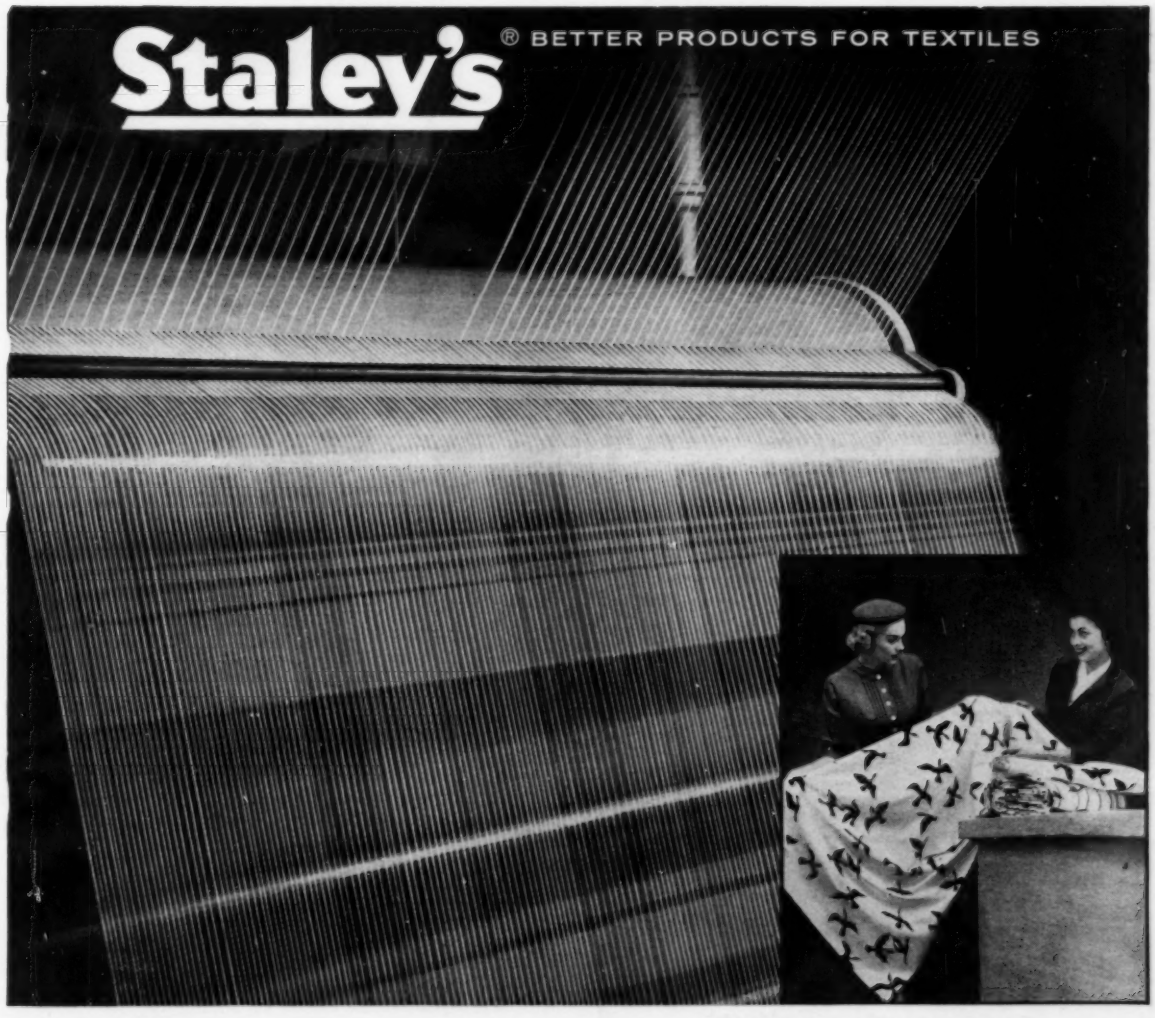
Dexdale Hosiery Mills, Lansdale, Pa., has acquired all rights to the Saint and Sinner line of women's stockings.

General Knitting Mills, Monroe, N. C., is planning to build a new finishing plant. A dyeing plant is planned for the future.

Herald Knitwear Co., Inc., New York, N. Y., has leased

JAMES LEES & SONS CO. recently completed an addition to its Glasgow, Va., spinning plant that more than doubles the former capacity of the plant. The new addition includes a blending room and a warehouse.

Staley's® BETTER PRODUCTS FOR TEXTILES



Higher weave-room efficiency...higher profits with Staley's Eclipse Sizing Starches

Southern textile mill cuts costs... boosts output with an assist from Staley's technical staff

Low weave-room efficiency was stealing profits from this mill at a fast rate. End breakage in the loom caused dollar loss in machine downtime, lost man-hours, and disruption of production and delivery schedules.

The problem was given to a Staley Technical Sales Representative. After checking conditions carefully, he recommended Staley's Eclipse Starch as a more effective sizing starch, and suggested several changes that would give plant operators closer control over production.

When his recommendations were put into practice, the results were excellent. Weave-room efficiency jumped . . . end breakage was cut to a minimum . . . and orders were filled on time. This success is *not* unusual. Your expert Staley Technical Sales Representative can help you solve the problems that are stealing your profits. See him now.

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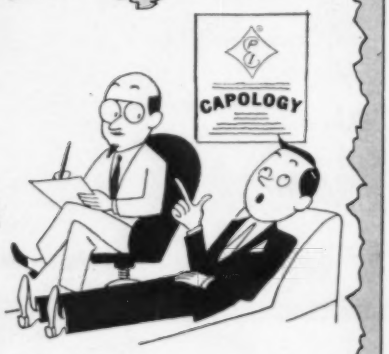
QUALITY TEXTILE PRODUCTS

Dextrins
Pearl Starches
Thin Boiling Starches
Oxidized Starches

Got a Cap Problem ?



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For cones, tubes, pirns, bobbins—ANY package
Let us help you solve it.

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Novelty Yarns

Any construction to your specifications using any fiber for Men's Wear, Dress Goods, Upholstery, Draperies, Automotive, and so on. Twists, Boucles, Ratines, Knots, Nubs ——

Neva-Tarn
Metallic Yarns

Non Tarnishing Metallics, all constructions of supported yarns on disposable tubes or cones for Knitting and Weaving into all types of fabrics. Additionally – Metallics combined with Novelties.

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a one-story building in Maspeth, N. Y., that will be used for the distribution of women's sweaters.

Huntley Hosiery Co., Inc., Charlotte, N. C., and **Carolyn Hosiery, Inc.,** Charlotte, N. C., have merged. Officers are: Baxter D. Huntley, president and treasurer; M. L. Huntley, secretary; Buford D. Griffin, assistant secretary-treasurer.

Jantzen, Inc., Seneca, S. C., is building a 26,000-sq.-ft. addition. Daniel Construction Co., Greenville, S. C., is the contractor.

Kings Mountain Knitting Co., Inc., Kings Mountain, N. C., has been incorporated to manufacture cloth and hosiery.

Lebanon Knitting Mill, Inc., Pawtucket, R. I., is building a $30,000 addition to its mill.

Penn Maid Hosiery Mills, Reading, Pa., is building an addition to its mill. Additional full-fashioned and seamless machines will be installed. The cost is estimated at $100,000.

Permatone Hosiery Co., Clementon, N. J., has changed its name to Custom Hosiery Finishers. There has been no change in personnel or policy.

Ridgeview Hosiery Mills Co., Newton, N. C., has placed an order for 120 Scott & Williams 474-needle seamless hosiery machines. The installation is expected to be finished early in 1957.

Sharnay Hosiery Mill, Philadelphia, Pa., has installed 60 Scott & Williams women's seamless-hosiery machines. The new machines have doubled the company's production.

Trio Knitting Mills, Inc., Mount Airy, N. C., has been incorporated by C. M. Hoover, C. A. Childress, and C. D. Hoover. Authorized capital is listed at $200,000.

Triumph Hosiery Mills, York, Pa., is building a 10,000-sq.-ft. addition to its finishing department.

DYEING AND FINISHING PLANTS

American Textile Printer Co., Inc., Paterson, N. J., has been formed to take over the operations of American Textile Processing Co., Inc. An additional 40,000 sq. ft of space has been obtained for a new printing division. An estimated $500,000 worth of machinery will be installed. New officers are: Dr. Rocco Nazzaro, president; Dan Nazzaro, vice president; Arthur Nazzaro, vice president and supervisor of the printing division; Armand Nazzaro, secretary-treasurer.

Caledonia Dye Works, Philadelphia, Pa., has installed a Fletcher Whirlwind extractor.

Carlisle Finishing Co., a unit of Cone Mills Corp., Carlisle, N. C., is building a 600,000-sq.-ft. mill. Completion is expected late this year.

Chateau Dyers Ltd., Huntington, Que., has installed a Hunter pulling machine and washer, a Parks & Wilson shear, a Gessner decater, and Plate presses as part of its modernization program.

Fairforest Finishing Co., Spartanburg, S. C., has purchased a Bond continuous dyeing and scouring machine.

J. W. Johnson Co., Bellwood, Ill., has completed a $100,000 addition to its plant.

Peerless Finishing Corp., Paterson, N. J., has moved its operations to the former Normandy Silk Co. plant, Hawthorne, N. J. New equipment, estimated to cost $250,000, will be installed. A new cotton-finishing division will be set up in the new plant. Joseph Rutler will be head finisher, and John Rento will be superintendent.

Trio Dyeing & Finishing Co., Inc., Paterson, N. J., has started operations. The company will do jig dyeing of Dacron, nylon, acetate, and blends. Officers are: Armando Levi, president and head dyer; Angelo Tordini, vice president and contact man; Stephen B. Doe, secretary-treasurer and head finisher.

Textile Notes on Corn Products

When operating temperatures and size stability are critical use...

NEW TEN-O-FILM® STARCHES

Fast cooking, easy desizing make these new corn starches a favorite for synthetics and combed cottons

Ten-O-Film has the stability and ease of removal necessary for spun synthetic yarns and blends, for combed cotton yarns and for worsteds.

Despite prolonged heating and circulating you can count on Ten-O-Film to maintain its viscosity at slashing temperatures. And when temperatures fall, it will resist gelation, even far below normal operating levels. If necessary, these new starches can be used with excellent results when humidity conditions in the weave room are lower than normal.

Ten-O-Film cooks quickly. You can have a completely stable size in 30 minutes after it reaches the boil. This product provides high film strength, flexibility and stability in a complete range of fluidities.

Ask the man from Corn Products. Ready to assist you in any way, he has at his disposal the most complete laboratory and technical facilities in the industry. The man from Corn Products can also provide engineering service for the installation of bulk-handling equipment. Write or phone for information, there is no obligation.

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Corn Products makes these famous starches for the textile industry—
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NoDrip plastic coating is easily applied to tanks, containers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless 100% moisture-proof covering that is effective as soon as dry. Acid, alkali and brine resistant.

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Interesting 32-page Handbook shows what NoDrip is and what it does.
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TECHNICAL COATINGS SINCE 1895

G. S. HAND TACHOMETERS and SPEED INDICATORS
for
MAXIMUM PRODUCTION

IDEAL FOR MOTORS - SHAFTS - SPINDLES - LOOMS - TURBINES - FOR TEXTILE AND POWER PLANTS.
1% Accuracy for any range from 30 to 100,000 RPM or surface speed. Antimagnetic durable mechanism. Efficient repair service at moderate charges.
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The bobbin that gives you the best run for your money. Want samples? Write us!
Makers of PRECISION Automatic Loom Bobbins

NEW ENGLAND BOBBIN & SHUTTLE CO.
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NEWS about MEN

C. M. Aldrich, Jr., has been named treasurer of Munsingwear, Inc., Minneapolis, Minn.

Charles Auerlich has been named overseer of carding and spinning at Malden Spinning & Dyeing Co., Malden, Mass.

Fred H. Barnett has resigned as vice president and wool buyer at The Bell Co., Worcester, Mass.

R. Benjamin has been named to head production at Diamond Hosiery Corp., High Point, N. C. **Ed Siegrist** has been named to head the hosiery operations. **Fred Wiley** has been named to head the knitting operations, and **Frank Aberle** has been named to head the finishing operations.

Frederick G. Bollman and **George J. Meng** have been named to the board of Berkshire Knitting Mills, Reading, Pa.

W. W. Bowman has been named technical director of synthetic production at Shuford Mills, Inc., Hickory, N. C.

C. G. Burrows has retired as group manager of the Roanoke, Va., and Radford, Va., plants of Burlington Industries.

Joe F. Chalmers and **J. B. Harris, Jr.**, have been elected vice presidents of Greenwood Mills, Greenwood, S. C. **Cecil O. Browning** has been elected assistant vice president. **Horace W. Brinson** has been elected to the board.

Harold Crabtree and **Aubree Crabtree** have been elected directors of Wabasso Cotton Co. Ltd., Montreal, Canada.

Johnson Craig has been named supervisor of mill-village beautification and forestry for Abney Mills, Greenwood, S. C.

WILLIAM H. LEHMBERG has been elected president of American Felt Co., Glenville, Conn.

B. G. Deazley has been named manager of the Chase Bag Co. mill in Reidsville, N. C.

Alfred B. Denison has been named a vice president of Scotland Mills, Inc., Laurinburg, N. C.

J. Neal Dow has been elected to the newly created position of vice president in charge of marketing at Vanity Fair Mills, Reading, Pa.

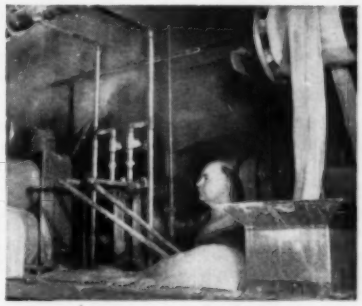
C. J. Dunseith and **P. S. Dolly** have been named to the board of Canadian Corduroy Ltd., St. Hyacinthe, Que.

R. G. Emery has retired as executive vice president of J. P. Stevens & Co., Inc., New York, N. Y.

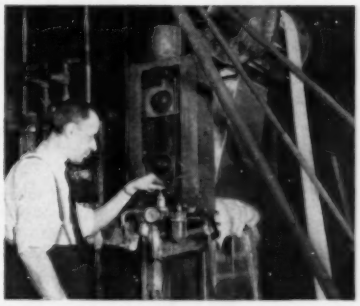
Woodrow W. Fowler has been named superintendent of the American Spinning Plant of Cone Mills Corp., Greenville, S. C., succeeding **W. Carl Johnson. Luther Peace, David H. Martin,** and **Archie P. Dudley** have been named overseers. **Harry L. Davis, Raymond C. Brewer,** and **Ray S. Boggs** have been named assistant overseers.

Here's How Bates Cut Bleaching Costs

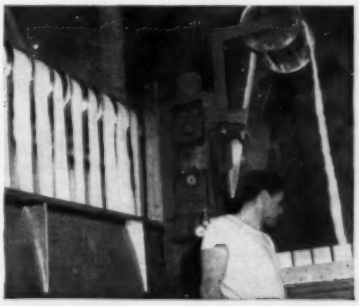
① Cloth goes from desizing bin into first washer



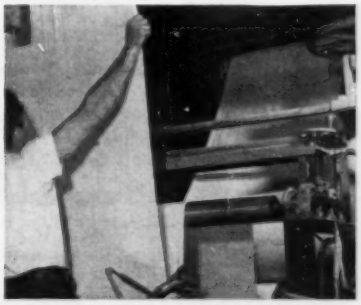
② ...enters saturator containing alkaline peroxide bleach



③ ...moves from saturator into heater tube attached to J-box



④ ...travels through washer into bin after 1- to 1½-hour bleach in J-box



⑤ ...is opened to full width as operator starts it through padder

New Du Pont single-stage system speeds bleaching, increases output at the Edwards Division Plant

Bleaching production is up, and costs are down. That is the experience of the Edwards Division of Bates Manufacturing Company, after one year operation with the new Du Pont one-step continuous system, which replaced its batch system. Bleaching time was cut to 1 to 1½ hours. Utilities and labor costs were lowered. High output combined with economic production gave Bates a desirable lower over-all bleaching cost.

The Edwards unit was the first of a number of commercial installations to use the new one-pass process—just one chemical treatment to get quality bleaching at high speed. Success of this installation and its operation came about through the close cooperation among Bates operating men, Du Pont technical service and the equipment manufacturer.

This is just one example of how Du Pont research and practical engineering are serving the textile industry. There are many more. If you're interested in finding out how your bleaching system can be modified to operate on the new one-step principle, contact your Du Pont representative, or mail the coupon below.

NOTE: *Du Pont does not build or sell bleaching equipment. Du Pont systems are available from leading equipment manufacturers. The equipment for Bates was built by the Rodney Hunt Machine Co., Orange, Mass.*

Send coupon for details

DU PONT PEROXIDES

ALBONE® hydrogen peroxide, 35% and 50%

PERDOX® sodium borate perhydrate

SOLOZONE® sodium peroxide

Sodium perborate tetrahydrate

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department TW-2
Wilmington 98, Delaware

☐ Please send full information about the new Du Pont single-step continuous bleaching system.

Name_____

Title_____

Firm_____

Street & No._____

City_____ State_____

DON'T GAMBLE WITH STATIC!

Use Herbert OXY COLD BARS!

Don't take chances on inadequate, inefficient or temporary static eliminators. They can be frustrating and costly.

Thousands of plants keep equipment operating dependably, production flowing smoothly and profitably . . . by using performance-proved Oxy Cold Bars.

Install this safe, sure static elimination on your own machines. You'll see why Oxy Cold Bar users are more than pleased with results.

Please send details of your machines for complete information.

HERBERT PRODUCTS INC.

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Industrial Engineers

MODERNIZATION PROGRAMS
PLANT LAYOUTS
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COST REDUCTION REPORTS
COST SYSTEMS SPECIAL REPORTS

Specializing in Textiles for over 40 Years

RALPH E. LOPER CO.

GREENVILLE, S. C. Tel. 2-3866
FALL RIVER, MASS. Tel. 6-8261

For information on Supr-O-Tape, that has no surface cracking, yet requires no oil.

see page 200 of this issue.

NEWS ABOUT MEN Continued

James E. Gibson, Jr., has been named vice president, general manager, and a director of Wilkes Hosiery Mills, North Wilkesboro, N. C. **Tom Eshleman** has been named secretary and a director of the company.

Arthur W. Gioner has been named mill manager of Patchogue-Plymouth Mills Corp., Lawrence, Mass.

James Greaves has been named to head the finishing division of Great Falls Bleachery & Dye Works, Somersworth, N. H.

J. B. Hughes has been named manager of Aragon Mills, Aragon, Ga.

W. G. Humphrey has been named assistant superintendent at Judson Mills, Greenville, S. C.

George Jolley has been named general manager of Covington Mills, Covington, Va. **J. Wesley Brown** has been named controller.

Pauline S. Kahn has been elected president and treasurer of Belvidere Hosiery Mills, Inc., Belvidere, N. J., and West Chester Hosiery Mills, Inc., West Chester, Pa. **S. Becker** has been elected secretary.

Edward H. Kelly, William H. Mann, and **William A. Drisler, Jr.**, have been elected vice presidents of Cannon Mills Co., Kannapolis, N. C.

John R. Kinash has been promoted to superintendent of Plant K of Collins & Aikman Corp., West Barrington, R. I.

A. GRIFFIN ASHCROFT has resigned as vice president and director of research and development at Alexander Smith, Inc., Yonkers, N. Y.

John L. Kornet has been elected president of R. K. Laros Co., Bethlehem, Pa. **Sidney Cohen** has been elected vice president.

Charles W. LaDow has been named manager of F. C. Huyck & Sons' new plant now being built in Aliceville, Ala. **Lawrence Lee** has been named superintendent.

Peter Meuwsin has been named general manager of Pottsville Bleaching & Dyeing Co., Inc., Port Carbon, Pa. **M. Weiderholt** has been named assistant manager, and **John Haywood** has been named to head production and scheduling. **R. M. Oberholtzer** has resigned as superintendent.

Robert Ness has been elected a vice president of Cold Spring Bleachery, Yardley, Pa.

JUDSON BEMIS (left) has been named executive vice president of Bemis Bro. Bag Co., St. Louis, Mo. T. H. ASHTON (right) has been named director of central operations for the company.

at Heineman's

BAN-LON HELANCA CHADOLON
AGILON LIVOLON TASLAN

UNDER LICENSEE ARRANGEMENT

NYLON DACRON ORLON
RAYON SILK

ALL
SYNTHETIC
FIBERS

OSCAR HEINEMAN CORPORATION

DIVISION OF AETNA INDUSTRIAL CORPORATION *DONALD G. BREWSTER: President and General Manager*

ARMITAGE, FAIRFIELD AND WASHTENAW AVES. • CHICAGO 47, ILL. • 20 NORTH KERR ST. • CONCORD, N.C.

SALES OFFICES

Oscar Heineman Corporation • 20 N. Kerr St. • Concord, North Carolina • Tel. 6282
C. D. Gott Co. • 1001 Chattanooga Bank Bldg. • Chattanooga 2, Tenn. • Tel. 7-8879
The Champlain Spinners, Inc. • 1440 Broadway • New York 18, N.Y. • Tel. LOngacre 4-8755
John G. Archer • 4th and Grand St. • West Des Moines, Iowa • Tel. 5-5440
Oscar Heineman Corporation • 1934 No. Washtenaw Ave. • Chicago 47, Ill. • Tel. ALbany 2-6100

Helanca licensee, Heberlein Patent Corporation; Chadolon and Livolon licensee, Patentex, Inc.; Agilon licensee, Deering Milliken Research Trust; Taslan licensee, E. I. duPont de Nemours & Co.; Ban-Lon licensee, Joseph Bancroft & Sons Co.

How Metallizing saves money in textile mills

cuts machine repair costs 80%—
cuts equipment "down-time"—
permits reduced spare parts stocks

Practically any worn machine part—repaired for only 15 or 20% of replacement cost—in minutes and hours, instead of days or weeks.

Worn Equipment and Parts

Drive shaft journals
Roll journals and surfaces
Spindle tops and whorls
Calender rolls and journals
Top rolls, necks and centers
Slasher roll surfaces and journals
Blanket roll journals
Sand roll surfaces and journals

The list of metallizing users in the textile field reads like a Blue Book of the industry. Here are just a few:

Cannon Mills
Dan River Mills
Deering-Milliken
Greenwood Mills
Bib Mfg. Co.
Bruck Mills (Canada)

For further information see our 8-page Bulletin in Sweet's File for Plant Engineers, or write for special free bulletin "Whip Waste with Metallizing in Textile Plants."

METCO

Metallizing Engineering Co., Inc.

1759 Prospect Ave., Westbury, L. I., New York • cable: METCD
In Great Britain: Telephone: EDGEWOOD 4-1300
METALLIZING EQUIPMENT COMPANY, LTD.—Chobham near Woking, England

announcing a NEW multi-purpose material...

OAKITE RUSTRIPPER

- *for removing rust from steel reeds*
- *for removing oil, grease; stripping paint from parts and equipment*

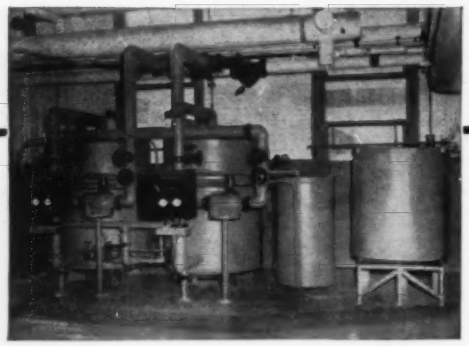
This amazing new material, Oakite RUSTRIPPER, is excellent, not only for removing rust, but for innumerable other conditioning operations where time and safety are at a premium. RUSTRIPPER comes in easy-to-handle powder form . . . contains no cyanide. An alkaline material, it will not attack sound metal, and may be used safely in iron and steel tanks. There are no troublesome fumes or disposal problems, either, when you use RUSTRIPPER. Why not investigate this revolutionary new material today? Call your local Oakite man, or write Oakite Products, Inc., 52D Rector Street, New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada



INVERSAND WATER SOFTENER PLANT

Producing

CLEAR-IRON FREE 100% SOFT WATER

Often For As Little As 1¢ per 1000 Gallons

Troubled with harshness, poor finish, uneven shades, redyes, seconds, and other product difficulties—?? The secret of uniformity may lie in your water supply. May we check it for you?

HUNGERFORD & TERRY, INC.

CLAYTON 9 NEW JERSEY

CALDWELL TANKS—

First Choice of the Textile Industry!

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

W. E. CALDWELL CO., Inc.
2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation
TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.

Please change the address of my Textile World subscription.

Name .....

Old Address .....

New Address .....

New Company Connection .....

New Title or Position .....

NEWS ABOUT MEN Continued

Harry A. Reinhardt has been elected vice president in charge of manufacturing at Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn. **Robert J. Jackson** heads the engineering and research department.

George W. Smith has been appointed resident manager of Pacific Mills, Lawrence, Mass.

A. W. Stoudenmire has been appointed superintendent of Abbeville Mills Corp., Abbeville, S. C.

M. W. Tucker has been named superintendent of Adams-Millis Corp., Kernersville, N. C. **Percy V. Cox** has been named foreman of the machine shop.

OBITUARY

George Avery, 54, director of Granby Elastic & Textile Co., Granby, Que.

Walter H. Bretall, 69, retired executive secretary of Bear Brand Hosiery Co., Chicago, Ill.

A. Luther Brown, 79, vice president and general manager of Cannon Mills Co., Kannapolis, N. C.

Charles R. Bryant, treasurer of Scranton Lace Co., Scranton, Pa.

Frank D. Cheney, 77, retired chairman of the board of Cheney Bros., Manchester, Conn.

C. Arthur Cook, 77, general manager and a director of West Boylston Mfg. Co., Montgomery, Ala.

L. A. Corriher, 83, president of Corriher Mills, Landis, N. C.

Edward B. Ferguson, Sr., 61, president of the Gold Seal Hosiery Co., New Orleans, La.

Arthur R. Fisher, 68, treasurer and a director of Cleveland Worsted Mills Co., Cleveland, Ohio.

Louis Gallet, president of Louis Gallet Knitting Mills, Inc., Uniontown, Pa.

T. H. Gillespie, vice president and general sales manager of Werthan Bag Corp., Nashville, Tenn.

Fred Hodgkinson, 50, plant manager for Cadillac Textiles, Inc., Valley Falls, R. I.

Robah G. Huff, 77, retired superintendent of the knitting department of P. H. Hanes Knitting Co., Winston-Salem, N. C.

Frank Ix, Sr., 88, founder and retired president of Frank Ix & Sons, New York, N. Y.

Frank P. Marson, 58, manager of Buser Ribbon Mills, Murfreesboro, Tenn.

H. Albion Millis, 74, retired director of Adams-Millis Corp., High Point, N. C.

Lonnie N. Mills, 65, general manager, secretary, and treasurer of Paola Cotton Mills, Inc., Statesville, N. C.

Victor B. Moore, 58, production manager of Durham Hosiery Mills, Durham, N. C.

Bernard J. O'Reilly, head of the carding department of Orr Felt & Blanket Co., Piqua, Ohio.

Donald C. Purrington, 55, superintendent of William Skinner & Sons, Holyoke, Mass.

Benjamin Schiffer, president of Schiffer Knitwear Co., New York, N. Y.

Henry Stehli, 53, chairman of the board of Stehli & Co., Inc., New York, N. Y.

Foster T. Wallworth, 62, head of Wallworth Co., Philadelphia, Pa.

Henry J. Wilkinson, 64, former manager of Charlottesville Woolen Mills, Charlottesville, Va.

Joseph Wojcicki, 42, overseer at Amoskeag-Lawrence Mills, Manchester, N. H.

he's working for you

THIS FELLOW IS TRAINED IN YOUR BUSINESS. His main duty is to travel the country — and world — penetrating the plants, laboratories and management councils . . . reporting back to you every significant innovation in technology, selling tactics, management strategy. He functions as your all-seeing, all-hearing, all-reporting business communications system.

THE MAN WE MEAN IS A COMPOSITE of the editorial staff of this magazine. For, obviously, no one individual could ever accomplish such a vast business news job. It's the result of many qualified men of diversified and specialized talents.

AND, THERE'S ANOTHER SIDE TO THIS "COMPOSITE MAN," another complete news service which complements the editorial section of this magazine — the advertising pages. It's been said that in a business publication the editorial pages tell "how they do it"—"they" being all the industry's front line of innovators and improvers—and the advertising pages tell "with what." Each issue unfolds an industrial exposition before you — giving a ready panorama of up-to-date tools, materials, equipment.

SUCH A "MAN" IS ON YOUR PAYROLL. Be sure to "listen" regularly and carefully to the practical business information he gathers.

McGRAW-HILL PUBLICATIONS

EMPIRE
REG. U. S. PAT. OFF.
TEXTILE MILL CRAYONS

The preferred Crayon in the Textile industry . . . .

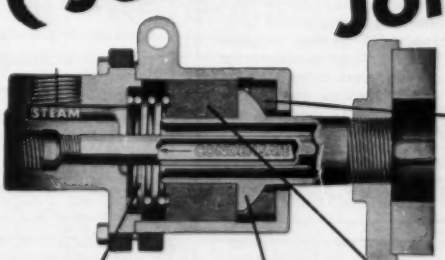
WHEN MARKING COUNTS, YOU CAN ALWAYS COUNT ON EMPIRE CRAYONS!

Made in 18 brilliant Colors in both large and small sizes.

Write for free marking guide!

the AMERICAN CRAYON company
SANDUSKY, OHIO NEW YORK

Only 4 internal parts in this self-supporting Johnson Joint



1. SEAL RING — of special carbon-graphite. Eliminates packing and oiling.

2. GUIDE — Also of carbon-graphite. Makes joint self-supporting.

3. NIPPLE — Rotates with roll, seals against ring.

4. SPRING — For initial seating only. In operation joint is pressure sealed.

With this 3000 Series Type S-B2 Joint, an assembly plate can be added at any time; it is used with the Johnson Syphon Elbow, to hold internal parts in position when the head is removed. Write for Bulletin No. S-2001.

The Johnson Corporation
814 Wood St., Three Rivers, Mich.

EMPLOYMENT OPPORTUNITIES

The Advertisements in this section include all employment opportunities—executive, management, technical, selling, office, skilled, manual, etc.

Positions Vacant
Positions Wanted
Part Time Work

Civil Service Opportunities
Selling Opportunities Wanted
Selling Opportunities Offered

Employment Agencies
Employment Services
Labor Bureaus

RATES

DISPLAYED

The advertising rate is $14.85 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

An advertising inch is measured ⅞" vertically on a column—3 columns—30 inches to a page.

Subject to Agency Commission.

UNDISPLAYED

$1.20 per line, minimum 3 lines. To figure advance payment count 5 average words as a line.

Box Numbers—counts as 1 line.

Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Not subject to Agency Commission.

Send NEW ADS to TEXTILE WORLD, 330 W. 42nd St., N. Y. 36, N. Y. for March issue closing February 16th

Step Ahead in Textiles

The young man we are seeking is ready to move ahead in his chosen industry—textiles. Between 25 and 30 years of age, he is a graduate of a recognized textile school or has a college degree with a major in chemistry. His record demonstrates capacity for work, initiative, and skill in getting along with people. Behind him are a few years of actual industrial experience. Ahead of him is a career opportunity in technical sales work with a pioneer and expanding leader in the development and manufacture of textile chemicals. Letter should contain full details of education and experience. Rohm & Haas Company, Textile Chemicals Department, Washington Square, Philadelphia 5, Pa.

POSITIONS OPEN

We can place—MANAGER dyeing and finish. plant, synthetic fabrics; sweater production mgr.; expert interlining and hair cloth mfr.; 2 rayon cloth mill supts.; wln. yarn supt., 3rd shift; cot. mill mgr. (So. Am.); plant engineer stretch yarn fab. mill; office mgr.; night supt. wln. mill; asst. supt. wstd. yarn mill; asst. supts. wln. and cot. cloth mills; designers and asst. designers for woolens; industrial engineers—time study men.

OVERSEERS for—wln. card.; wln. frame spin.; cot. dye. and finish. for mills also for selling and demonstrating; wstd. draw., spin., wind. and twist.; finish. synthetic fabrics; open stock room; pick. and garnetting; wstd. weav.; wool scouring; wln. finish.; wln. dye. and finish. combined. Foreman coating and rubberizing fabrics.

SECOND HANDS for—wln. card.; wln. frame spin.; wln. weav.; raw stock dye.; cot. spin.; cot. twist.

ELECTRICAL ENGINEER: quality control engineer; chemists, chem. engineers and laboratory men for mills, also for demonstrating and selling; print works colorist; shoddy salesman; fixers for Scott & Williams, Tompkins, Komet and Banner machines; cotton picker fixer-supervisor; carpet loom erector.

SEND US YOUR RESUME. Many attractive positions at excellent salaries are open for top-notch men. No fee to be paid unless you accept employment through us. Negotiations are confidential.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston 8, Mass.
Phone: LIberty 2-6547 Over 55 Years In Business

POSITIONS OPEN

Well Established Progressive and Growing Mill in New England

HAS GOOD OPPORTUNITIES FOR:

1. Designers of knitted fabrics
2. Research and development personnel with interest in plant processing
3. Men interested in industrial engineering and quality control.

Our personnel know of this ad. Responses kept confidential.

P-8624, Textile World
330 W. 42 St., New York 36, N. Y.

WANTED
WEAVING SUPERVISOR

who has experience as a Second Hand—experienced on W-2 and W-3 looms preferred. Give full detail as to experience and salary expected. Replies held confidential. Write

P-8950, Textile World
330 W. 42 St., New York 36, N. Y.

CAN YOU SELL IMPORTANT MILLS?

For Atlanta area, other S.E. territory, we want a man well-known to "top brass," production, purchasing execs in leading mills, and selling them volume now. We are a top producer of Polyethylene Film for packaging textiles, other products. Big volume potential for right man. Write to

SW-8802, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

Opportunities for College Graduates
With multiplant southern textile company.
Quality Control Assistant
Management Trainee
Foreman—Carding and Spinning
Junior Accountant
Packaging Assistant
Assistant Designer
P-9005, Textile World
330 W. 42 St., New York 36, N. Y.

UNUSUAL OPPORTUNITY

Man not over 35 to act as technical service representative. Must have textile background combined with general mechanical ability. Prefer college graduate but require at least two years college education or equivalent. Position entails considerable travel, offers permanency and many unusual opportunities. Replies held confidential.

P-8605, Textile World
330 W. 42 St., New York 36, N. Y.

Representatives Wanted

Oldest and Largest Textile Comb Manufacturers in France—Porcupines, Fallers, etc., Furnishers of Principals French Textile Machine Makers and Industrials Seek Opening on American Market. Would Appoint Well Introduced Distributing Agent.

RW-9049, Textile World
330 W. 42 St., New York 36, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITION VACANT

Opening for superintendent cotton textile mill located in North Carolina. Address reply to P-8779, Textile World.

POSITIONS WANTED

Throwster, Supt. or manager. Twenty-five years experience. Throwing of all fibers for all trades, knowledge of modern methods, costs, and incentives. Excellent references willing to relocate. PW-8017, Textile World.

Wool buyer & Blender Expert designer & fabricator. Degree in textile engineering. 20 years as woolen mill Supt. Desires position in south in an executive capacity. Complete resume upon request. PW-8706, Textile World, 330 W. 42nd St., New York 36, N. Y.

Textile Screen Room Supervisor. Supervise complete cycle from tracing to finished strike off. Drapery—table cover—dress—towel material. Prefer New England area—age 33—married. PW-8471, Textile World.

Textile Engineer: 4 years consulting engineering experience with leading textile consulting firm. High caliber man, 30 years old, possessing exceptional ability, ambition, and aggressiveness. Intensive cotton and synthetic manufacturing background. Developed production, quality, and overall mill control programs. PW-8953, Textile World.

Young Textile School graduate with practical mill experience, desires change. 2 years employed as office manager. PW-8843, Textile World.

TEXTILE CHEMIST

Creative chemist with 3-5 years of plant experience in sizing, printing and/or finishing wanted to work in Charlotte, North Carolina, Laboratory of growing industrial firm. Splendid opportunity for man with initiative, who is capable of working with a minimum of supervision. Position entails the development and evaluation of textile specialties for sizing, printing and finishing cotton and synthetic fibers. Send detailed resume of experience. State salary requirements.

P-8817, Textile World
330 W. 42 St., New York 36, N. Y.

SALES REPRESENTATIVE

MANUFACTURER OF RAW MATERIAL IS EXPANDING SALES ORGANIZATION AND HAS OPENINGS IN EASTERN AND SOUTHERN TERRITORIES. MEN WITH SALES EXPERIENCE TO TEXTILE AND PAPER INDUSTRIES DESIRED. EXCELLENT OPPORTUNITY. SALARY COMMENSURATE WITH ABILITY. OUR MEN KNOW OF THIS AD. REPLIES WILL BE KEPT CONFIDENTIAL.

SW-8846, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

CLASSIFIED SEARCHLIGHT SECTION ADVERTISING

BUSINESS OPPORTUNITIES — EQUIPMENT - USED or RESALE

UNDISPLAYED RATE:

$1.20 a line, minimum 3 lines. To figure advance payment count 5 average words as a line.

PROPOSALS, $1.20 a line an insertion.

BOX NUMBERS count as one line additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED RATE:

The advertising rate is $12.65 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches—to a page.

EQUIPMENT WANTED or FOR SALE ADVERTISEMENTS acceptable only in Displayed Style.

Send NEW ADVERTISEMENTS to N. Y. Office, 330 W. 42nd St., N. Y. 36, N. Y. for March issue closing February 16th

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

BUSINESS OPPORTUNITY

For sale, as going concern, small modern weaving shed, equipped with 60 postwar automatic pirn change looms suitable for cloths 36" to 72" in both light and heavy constructions. Complete with auxiliaries, i.e. automatic pirn winding, automatic knotting machine, etc. fully automatic oil burning heating plant. Attractive office block, ideally situated in pleasant part of North of England, and ground available for expansion. Presently concentrated on man-made fibres and full order book. Good existing labour force and further labour available, approx. 14,000 ft. BO-8827, Textile World.

WANTED TO BUY

parts, or machinery manufacturing business now selling to textile or allied trades. Write in strict confidence to

BO-7930, Textile World
330 W 42nd St., New York 36, N. Y.

FOR SALE
WELL EQUIPPED
NARROW FABRIC PLANT

12 Late Fletcher 15.8 and 18' Looms. Plant in operation. Will sell all or part. Located in New Jersey.

BO-9048, Textile World
330 W. 42nd St., New York 36, N. Y.

80,000 Adolf S-3
Pirn Tubes or Quills

3 groove, 7¾" long, 2⅝" metal ferrule
Samples available upon request.
CANADIAN CELANESE LTD
Drummondville, Que. Canada

PROFESSIONAL SERVICES

PATENTS

Information concerning procedure furnished upon request, without obligation.

B. P. FISHBURNE
REGISTERED PATENT ATTORNEY
702A McLachlen Bldg. Washington 1, D. C.

LIQUIDATION

formerly ATLANTIC DYE WORKS—PATERSON, N. J.

8—60" Werner S.S. Jiggs
6—72" Werner S.S. Jiggs
2—60" x 60' Palmer-Tenter-Padder Units
2—3 roll Hydraulic Calenders 60"—68"
1—4 roll Hydraulic Calender 65"
1—8 Fan National Dryer, Maxom Burners
1—Kenyon Pin Dryer 12 Pass
1—67" Werner Pneumatic Padder 12 ton
S.S. Dye Becks 2' to 14'
Hi-Speed Tubers 60"—72"
Examining Machines 60"—72"
1—50" Button Breaker
1—60" x 30' Tenter Frame S.S. Clips, Hi-Pressure Heating
1—48" Hercules Extractor
1—Mt. Hope Turntable Detwister
1—60" 3-roll Quetch
1—2 large Lamp and 6 small Lamps MacBeth
Laboratory Calender—S.S. Dye Becks—Electric Hoists, S.S. Pails and Office Equipment

A & M BLANK CO., INC.

301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

LOOM SUPPLIES

100 sets—Anti-Sloughing Devices for Batteries
15,000—Canvas Lug Straps, all sizes
10,000—Rubberized Fabric lug straps, all sizes
1,500—Pick Clocks—Veeder Root, Durant
10,000—Chaney Ratchet Pick Wheels
5,000—Draper Pick Gears, L261, L264, LM20, series
1,000—1 & 2 roll temples
5,000—Stop motion sliding bars & electrodes
1,000—Stafford thread cutters, complete
10,000—Heddle Frames, with or without heddles
2000 M—Drop Wires, Regan, Electric, Sliding Bar
100—Batteries, complete with hopper stand
100—Loom Beams, New, 44" x 24" dia., 130T
400—Loom Beam Heads, 130T, 8P gears
750 M—8" & 8¼" loom bobbins, excellent
100—16 & 20 harness dobbies, ⅝" gauge
2,500—Box Fronts & Backs for Draper Looms
500—Midget Feelers
2,000—Loom Motors, ½, ¾, 1, 1½ hp.

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1—Complete American Moistening System with 1947 Ingersoll Rand Compressor, Type FSI, 17 x 11, 203 heads, 5,000 ft. of piping, 10 controls, 8 water boxes—Now Installed.

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2—338 Sp. Johnson & Bassett Mules, 1945
1—Little Uster #2 Portable Warp Tying Mach.
4—B/C LC, LS, LL Portable Warp Tying Mach.
2—Hoists for Terrell Bobbin Stripping Mach.
2—S/L #34 1 bag air filters
2—B/C HD Warpers & VC Creel
300—Parks-Cramer TKA Atomizers, complete
800—Tricot—Magnesium & aluminum beams 14 x 14
3—Model K Bobbin Strippers
2—Folders C&M 54" E&H 46"
1—Sipp Warper & Creel—excellent
24,000—NC727, G758 Armstrong Spinning Cots (new)

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New Bedford, Mass. 7-9466

FOR SALE

2—Universal Winders style 6-C, 6 spindles each—8"x8" Package.
1—Atlas Launder-Ometer model LHD-EF.
26—Whitin L. H. 45" cards—27" Doffer—5 Point setting—12" coilers.
4—Providence Machine Company 10x5 interdrafts 7½" gauge—2 L.H.—2 R.H.
4—Universal Model 12 Winders with 12" Cams which will produce a 12" diameter package. Individual spindles.
20—Arnold Rubber Covering Machines, 160 spindles each for producing 80 ends per machine, motor driven, 5 H.P. 3460 R.P.M.
19—#50 Universal Winders equipped to wind rubber covered thread. Some of these winders are equipped with Pineapple coning attachment, some with Skein attachment and some with Kidde attachment.
1—Dinsmore Rotary Piece end sewing machine, equipped with motor driven merrow butted seam sewing machine Head #60-ABB.

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1—Morrison Palmer Unit with 20'x60" wide Tenter Frame equipped with No. 7 W6J; SS Clips; 2 roll Pneumatic Quetch; Palmer Cyclinder with 56" Blanket, Selas gas drying equipment; 7½ HP Motor with Reeves drive.
1—Butterworth 60x60" Tenter Frame with W6J #7 SS Clips, with electric DC G.E. Guiders, beam let-off device, Batcher, Cooling Can, and 10 HP 440 volt, 3 phase, 60 cycle Motor with No. #6 BB Reeves drive.
1—Set of 20 Textile Fins, Co. Vertical 60"x23" dia. Copper Dry Cans complete with batcher.
1—3-Compartment Textile Co. open washer; Steel Tank 12'x72" wide x 36" deep with 3 sets of 60" face x 12" dia. Rubber Squeeze Rolls, SS immersion rolls, Scrimp rolls, with 220/440 volt MD.
1—50" VV 3 Roll Hydraulic; two 20" dia. paper rolls; one 9" steel roll; spare roll; with 10 HP 440 volt, 3 phase, 60 cycle motor.
1—Proctor & Schwartz Loop Dryer 26'x60" wide; rotating bars; steam heated; 5 HP drive motor 7½ HP and 2 HP Blower motors; 1 HP exhaust motor; air guiders.
4—Progressive Mach. Co. cloth Inspection and Measuring Machines for 60" fabrics with yardage counters; variable speed drives forward and reverse ¾ HP 220/440 MD. Can make up to 42" dia. roll.
1—Birch Bros. 60" Vacuum extractor with beam let-off device and Swing folder; variable speed motor drive; Worthington Pump.
1—Van Vlaanderen 5 pass conveyor type steam heated dryer; 26' long 60" wide bars, four fans; 2 roll Quetch driven from dryer; 3 5 HP 440 volt, to cycle, 3 phase motors on drive and fans, Reeves drive.
2—65" Cheney Bros. Dye Jiggs with SS Immersion Rolls, tilting Expanders individual Motor drives.
6—50" face Morrison SS Open type Dye Jiggs, ss Immersion Rolls, tilting expanders with Gear reduction motors driving 3 Jiggs.
6—Van Vlaanderen 50" SS Open type Dye Jiggs, SS immersion rolls, and Tilting Expanders, no motors.
Andrews & Goodrich steam heated low type dryer, 26' long, 10' wide, 4' 8" high/insulated hood; 7½ HP, 440 volt, 60 cycle, e phase motor and fan with two fin heaters, purchased 1954 for use on 66" wide Tenter.
4—60" Carbomatic gas fired infra-red Burners complete motor, blower, and all necessary controls.
1—46" Face 5 Roll Chasing Calender Screw & Lever Set. 3 cotton filled rolls, and 2 chilled iron rolls.
1—Stainless Steel Cook PN Detwister with MD.
1—Stainless steel 200 Gallon Mixing Tank—36"x36"x42" deep.

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Reeves Drives from No. 2 to No. 6, Spare New Semi-Decater blanket 525 yds x 52" wide, Worthington Vacuum Pumps, Quetsches, Spare Rolls all sizes etc.

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2—Whitin Spirawhirls
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4—H & B One Process Pickers
1—Centrif-air Rake Conveyor
2—H & B Condensers
1—H & B Finisher Picker

COMBERS —
20—Tunstall combers—modernized in 1952 with Saco Lowell parts—production 37½ lbs. per hour.
5—Whitin Sliver Lap Machines
4—Whitin 1949, Model C, 6 Head Ribbon Lap machines.
16—Deliveries Whitin 1949 Drawing Frames.

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WARP PREPARATION —
1—Barber-Colman Spooler #743, Model KK, 234 spindles Type C Head.
2—Barber-Colman Warpers, 504 ends.

SLASHING —
1—H & B 2 cylinder slasher.

LOOMS —
190—Draper-Stafford 40" looms.

CLOTH ROOM —
1—Shear, Curtis & Marble
1—Folder, Curtis & Marble for 40".

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100—Rebuilt Universal #50 Winders, Cones or Tubes to Your Specifications
1—Scott Model Q Tester 2000 Lb. Capacity
1—16 Spindle Sargent Balling Machine
1—20 Spindle Universal Retoconer

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2800—Spdls. Atwood Uptwisters, Model #110, 2 lb. headless package, 1953.
1—Johnson Slashers, 66" headway, 7 cans, 1951.
1—Reiner Hi-Speed Warper, 54-¼" wide w/Sipp-Eastwood Creel, 800 ends.
1—Abbott Quiller, 120 spindles, 8" bobbin, auto hoist, Age 1953.
2—Sipp-Eastwood Redraw Machines, Model GK, 120 spdls, age 1954.
1—Hermas 4 Blade Shear, Model AV, 75" wide, 1947.

The former AMES TEXTILE CORP.,
Southbridge, Mass.

14—Warner-Swasey Weaving Machines, 80", 8 harness, Model 2820, 1952.
154—Crompton & Knowles W2 Looms, 82", 20 harness dobby, motor driven.
1—Bachman-Uxbridge Gentle Air Slasher, Model A, 80", West Pt. Boxes, 1950.
7—Saco-Lowell Tape Drive Twisters, 200 spdls. ea., 3" ri, 4" & 5" gauge.
1—Riggs & Lombard Pneumatic Padder, 72", 12" dia. rubber rolls, 1942.
6—Riggs & Lombard Stainless Steel Enclosed Dye Boxes, 6' wide, 1949-52.
1—Arlington Stainless Steel 84" Washer, 4 squeezers, 1949.
1—Birch Cypress Washer, 82" wide, 4 squeezers, 1946.
2—Amer. Cascade Washers, 6 compts, 1-cypress, 1950-2.
1—Riggs Lombard Rope or Open Washer, 4 compts., 54", 4 pneu. squeezers.
1—Kenyon Pin Tenter Dryer, 40'1., 84" w., multi-pass, complete w/controls.
1—David Gessner Hi-Speed Press, 66" wide, complete, 1948.
1—Parks & Woolson Gap Shear, 3 blades, 72", motor driven, 1948.
2—Parks & Woolson Centurial Shears, 66", 3 blades, motor driven.
3—Gessner & Parks & Woolson Semi-Decaters, 72" & 66", 1948-53.
6—Hungerford & Terry Water Filter Tanks, 20' long x 8' dia., 1953.

The former RAYLAINE MILLS,
Manchester, N. H.

26—Lowell 40" Cards, 27" doffers, 12" coilers.
1—Abington Card Stripping System w/Hoffman pump, 1947.
2—Woonsocket Slubbers, 12 x 6, 56 spindles each.
15—Whitin Tape Drive Spin. Frames, Model F, 204 spdls, 3¼" ga, 2" ri.
2—Saco-Lowell Tape Drive Ring Twisters, 204 spdls, 4-½" ga, 3-½" ri.
7—Saco-Lowell Dolly Twisters, tape drive, 272 spdls, 3" ri.
48—Spindles Whitin Schweiter Winders, Model MS, 1945 and 1947.
1—Bachman-Uxbridge Gentle Air Slasher, 80" headway, DC Generator, 1950.
80—Draper Looms, Modified D, 68" cloth, 20 harness dobby, motor driven.
24—Draper Looms, Mod. D, 66" & 62", 2 x 1 & 1 x 1 box, motor driven.

The former CLUETT, PEABODY MILL,
North Grosvenordal, Conn.

6—H&B Cotton Cards, 40" wide, 26" doffer, 12" coiler, 110/120 wire.
48—Del. Saco-Lowell Controlled Draft Drawing, 4 del. per frame, 1949.
96—Del. Saco-Pettee Controlled Draft Drawing, rebuilt 1951.
6—Saco-Lowell Lap Winders, Model #37, 1949.
25—Saco-Lowell Combers, 12 heads, 10-½" lap, 1936-41.
1—Ingersoll-Rand Air Compressor, 20 x 13, Synchronous 25 HP motor, 1952.
1—Barber-Colman Hi-Speed Quiller, 30 spdls., 1949.
5—Foster Model #102, 100 spdls., Franklin Springs.
2—Bachman-Uxbridge Gentle Air Slashers, Model A, 60", DC Generators, 1951.

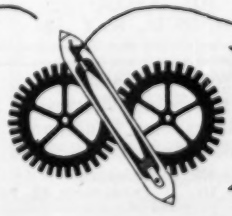
The former GOSNOLD MILL,
New Bedford, Mass.

23—H&B Cotton Cards, 40", 26" doffer, spindle backs, 110/120 wire.
6—H&B 10 x 5 Slubbers, Hi-Draft, 104 spdls. ea., 1946.
32—H&B Spin. Frames, S-L Roth L.D., 2-¾" ga, 1-¾" ri, 288 spdls. ea.
24—Whitin D2 Combers, 8 doublings, 12" lap.
74—Crompton & Knowles C6 Looms, 60", 25 harness dobby, 4 x 1 box, 1946.
5—Curtis & Marble Clip Spot Shearers, 2 blades, 56" wide.

The former BARBET MILLS,
Lexington, N. C.

16—H&B Cotton Cards, 40", revolving flats, b.b. comb boxes, spindle back.
1—Universal Model #44 Roto-Coner, 120 spindles, 1941.
2—Edmos Circular Knitting Machines, Model EEM, 17"—24" dia.
2—Hinnekens Stainless Steel Dye Boxes, 12' wide, 1948.
1—Greenville Stainless Steel Slack Rope Washer, 1948.
1—Greenville Stainless Steel Bleaching J Box, 1948.
1—Pneumatic Wringer, 1948.

Detailed Catalogues and Descriptions Will Be Mailed Upon Request



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2—8 x 4 Saco Lowell Speeders, FS1 long draft, 144 spindles, 6" gauge.
4—Whitin Model "N" Enclosed Hopper Feeders, motor driven.
1—34½" F-5 Kitson Feeder Hopper.
2—38½" F-2 Kitson Feeder Hoppers.
3—38½" F-5 Kitson Feeder Hoppers.
5—43½" F-5 Kitson Feeder Hoppers.
1—45" Finisher Picker, P & D Evener, for 4 laps.
2—40" Kitson Single Process Pickers, 3-beaters, with blending reserve.
3—40" Kitson Single Process Pickers, 2-beaters, with blending reserve.
8—#7 Eveners for 40" Pickers.
8—16" Kirschner Beaters.
1—16" Aldrich Beater.
11—16" 2-blade Beaters.
2—Whitin Model B Spinning Frames, 216 spindles, 3" gauge, 2" ring, tape drive, Roth long draft.
2—Whitin Model A Spinning Frames, 216 spindles, 4" gauge, 2" ring, band drive, Conventional Draft.
42—40" Draper Model K Looms, 25 harness, dobby, double index, motor driven.
50—28" Warper Beams, 12" barrel, 54¼" between heads.
100—28" Warper Beams, 54½" between heads, 10" barrel.
3—#7 Sturtevant Fans, down-blast.
4—Saco Lowell #7 Terminal Heads, 2-bag unit.
4—Saco Lowell #34 Air Filters.
3—Saco Lowell 6-delivery Drawing Frames.
7—Saco Lowell 5-delivery Drawing Frames.
1—Parks & Woolson 105" Brushing & Shearing Unit, with J-Box.
2—106" Inspection Tables.
3—Curtis & Marble Tandem Cloth Inspection Tables, 1—108", 1—116", 1—98".
2—#6 Kitson Condensors.
2—#9 Saco Lowell Condensors.
2—Terrell Model L Quill Strippers.
1—Terrell Model L Firn Stripper.
3—Brown Moist-O-Graphs.
2—5' Saco Lowell Slasher Cylinders—Copper.
2—7' Saco Lowell Slasher Cylinders—Copper.
5—Copper Lied Size Boxes.
2—P.I.V. Link Belt Drives.
1—#2 Reeves Drive with Beck Control.
1—#3 Reeves Drive with Beck Control.
500—10 x 36 Fiber Roving Cans.
4,000—12 x 36 Fiber Roving Cans.
10,000—Abbott Winder Cones — Cork Covered.
2,000—Abbott Winder Tubes.
250,000—8-¾" 3-ring Quiller Quills.
50,000—9 x 4½ Saco Lowell Bobbins.
30,000—9 x 4½ Whitin-Woonsocket Bobbins.
3,700—1-¾ #2 Flange Rings in cast iron holders, 2-3/16" base.
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6,000—2-¼" #2 Flange Rings in cast iron holders.
8,700—Cast Iron Holders for 2" #2 Flange rings.

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1—Sipp 84" All-Metal Hi-Speed Warper, Creel.
1—Johnson Silk System Slasher, 74" x 30", 7-Drum SS with Teflon.
52—C & K, S-6, 72", 2 x 1 Auto.
18—Draper 56" XD.
48—C & K, C-4, 80", 4 x 1 Auto., Conv. TD 4 x 4, Dobby.
24—Spindles, Whitin Quillers.

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46 Saco-Lowell 224 spindle spinning frames, tape drive, Roth long draft, 2¾" gauge, 1 7/16" ring, VR 3 shift clocks.

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Electric Baling Presses
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Modern Package Yarn Dyeing Plant complete with winding equipment.

W-8801, Textile World
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(Additional Wanted Ads on page 263)

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$600,000 COMPLETE THROWING PLANT

Exclusive agents for the sale of throwing equipment and supplies from a large southern textile mill

Machinery very late, desirable, like-new condition. Sold as individual items or complete unit. At reasonable prices.

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60 spindles per machine. 7" Traverse. Spindleless type.

64—U. S. TEXTILE 1950 & 1951 FACE DRIVE. HEADLESS PKGE. D.D. TWISTERS
8" gauge. 160 spindles per machine. Complete with separators, 2 motors per machine. 440V, 3 phase, 60 cycle. Magnetic starters.

1—1950 H & W YARN CONDITIONER
Steam. RT2 Model. Complete with all instruments

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Machinery Will Be Sold Separately

1952—Fletcher Ball Bearing Label Looms
1948—Fletcher Label Looms
1950—McBride Cone Creel
1950—Ramsey High Speed Warper
1950—Gloddie 24 Spindle Quiller

R. K. LAROS EQUIPMENT

40—1948 & 1951 72" C&K S-6 Looms
2 x 1 box. 3 phase 220 volt 60 cycle motorization, 3 shift pick counters. Looms complete with all auxiliary equipment such as harness frames, heddles, drop wires, shuttles, quills, etc.
Looms in like-new condition.
10—U. S. TEXTILE ½ LB. PKGE. D. D. TWISTERS.
200 spindles per machine. 1 motor per deck. 3 phase, 220 Volt, 60 cycle.
10—ATWOOD MANARCH ½ LB. PKGE. D. D. TWISTERS.
200 spindles per machine. Motorized. 3 phase, 220 Volt, 60 cycle.
Bobbins and Auxiliary Supplies
30—UNIVERSAL #250 SIZING MACHINES.
Machinery in like-new condition. Complete with viscosmeters, stainless steel piping, sizing tubes & trucks.
100—UNIVERSAL #50 NYLON CONERS
23—Very Late Model
All coners 6 spindles per machine. L-Drive. Gear gain. Roller bale pineapple attachments. S. S. emulsion troughs & rolls.
1—SIPP EASTWOOD 8 YD. HIGH SPEED WARPER
1—840 END SIPP EASTWOOD MAGAZINE CONE CREEL
1—FIDELITY SKEIN REELER
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SOUTHERN NARROW FABRIC MILL

20" LAMINATING MACHINE
Rayon Warp Acetate Film
Printing Machinery and Engraved Rolls
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1940 FLETCHER LOOMS 111 SPACES
Heavy duty cam motions—motorized.
6 & 8 SPACE C & K HEAVY DUTY WEBBING LOOMS
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3 CAN FINISHING MACHINE COMPLETE WITH CALENDAR
5 CAN GAS FINISHING MACHINE & CRIMPING UNIT

OTHER EQUIPMENT

WHITIN SCHWEITER QUILLERS With Automatic Loaders
2—42 spindle 1945 Model with 2—1950 Automatic Loaders. All set up—ready for operation. Condition excellent.
3—ATWOOD MODEL 110 1948 1 LB. TWISTERS
208 spindles each. 6" gauge—2 motors per machine—Nylon spindle bobbins available with machines.
4—FLETCHER ½ LB. PKGE. DOUBLER TWISTERS
8—ATWOOD 5-B MACHINES

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All items subject to prior sale. **Write, Phone or Wire for Further Information.** **This is only a partial listing.**

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LIQUIDATING

PARTIAL LIST

14—Dye Jiggs, 50", 60", 100", All Stainless Steel.
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1—Flat Folder, 52½", Air Lift. 1 Yd.—1½ Yd. Folds.
3—All Stainless Steel Print Washers, 1—G L Unit, 2—Slack Loop Units.
1—Padder 56", 2 Rubber Roll 12" & 16", Ball Bearing, Spare Set Rolls.
2—Calenders, 50" & 60", 3 Roll Ball Bearing.
1—Extractor, 60" Stainless Steel Basket.
1—Palmer-Tenter Unit, 60" Width, Ball Bearing.
2—Hydraulic Embossers, 54" 2 Roll, Ball Bearing.
1—Copper Jacketed Mixing Kettle, 200 Gallons, Agitator.

Also: Print Machines, Agers, Dry Cans, Semi Decators, Tubers, Dye Becks, Etc.

We buy for cash from a single machine to a complete plant.

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1000—slightly used, welded wire construction, tin dipped quill pin boards; dimensions: 15" x 23", each board will hold 160 quills.

3—"Hermas" Cloth Examination Machines 66" board width, all forward-reverse, 1/3 H.P., 110 V., AC motors, 5 years old, excellent appearance.

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2—0L20 Cop winders 20 spdls.
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3—#45 Universal winders tubes
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Universal #10 twisters
1 #44 Roto coner 100 sp. 9-36

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FOR SALE—Butterworth machine
One set 12 drycans—23" diam.—46" face—stainless for quick removal.
$125.00 per can
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FS 9073, Textile World
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1—cloth scutcher, 110" wide, double beaters
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1—starch mangle, 3 rolls, 110" face
1—tenter, 20' long, 32" to 100" cloth
1 set 52 copper dry cans, 23" x 110" face
(Used on wide sheetings)

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Used body rib Knitting Machines
Brinton or Supreme, Multiple-Feed Type
14 Cut — Diameters 14" through 20"
The Monarch Knitting Company Limited
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SPINDLESS—60 SP.—1948—4½" TRAVERSE

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10—HI-SPEED U. S. TEXTILE SPOOLERS

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WE BUY — SELL — MOVE — ERECT NEW — USED STEEL ELEVATED WATER TANKS AND PROVIDE PAINT OR REPAIR MAINTENANCE FOR THESE STRUCTURES.
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Draper Looms XDSs or X2's
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These are a few selected items only

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3—D&F 48" x 12-Bar Mixing Pickers.
1—D&F 48" Fearnaught, 60-rows teeth.
1—D&F 48" Improved Burr Picker.
1—D&F NEW 48" x 6-Bar Mix Picker Cyl only.
1—Clark Am Std Rag Picker NEW.
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1—Sargent 8' Cone Duster. Worker Roll. Fan. 10-HP M.D. yr 1952.
1—D&F 30" Automatic Box Duster.

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1—D&F 3-cyl 60x60 WOOLEN CARD. Broadband. Peralta. Sql Apron Tape.
3—Cleveland 48x48 IRON WORSTED CARDS. 4-Lickerin Type. B.Brg Cyls.
1—S-L 40" Roller Top Card. Multilap feed. 12" Coiler. yr 1948.
1—S-P 40" Cotton Card converted to Roller Top. For sample work. Mtr Dr.
1—Whitin 60" Broadband Int Feed.
1—Whitin 60" Woolen Card Feed.
2—D&F 48" Broadband Int Feeds.
1—only 60" spare Peralta Roll.

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2—W&S Dual Pin Drafters. M2350. Can Creels. 550V M.D.
2—W&S Quads. M2380. Can Creels. 550V M.D.
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1—D&F 48" Pin type Dressing Reel Unit complete w/Beamer, Warp Compressor, etc.
1—WCM Co. 504-Live End Magazine Creel. Tri-disc tensions. Stopmotion, etc.

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1—Scott Mdl J Cloth & Yarn Tester, 110V.
1—Emerson 4-basket Conditioning Oven for Top.
1—Toledo Fan Dial Grain Scales, Style 4641FF.
1—Scott 10" Twist Counter.

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1—P&W 72x36 Semi-Decater, Ser 8004.
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3—P&W 66" Veritex Model Examining Mchs. M.D. yr 1949.
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1—Trumeter "Wooco" Type C. Ser 3563.
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1—R&L 8' Cloth Washer. Rubber Rolls. Type 106. 7½-HP 5500 Syncrogear Mtr Dr.
1—R&L Mdl 65 Fulling Mill. 14" Rolls. s.s. slides, etc. Ser 1301.
1—P&W 3-blade 66½" DAVIDSON SHEAR. Ser 8129. 550V Mtr Dr.

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107—C&K Steel Loom Beam Barrels 82" x 6½".
27—C&K 100" Loom Beams—Nearly New.
2—S.S. Tanks 42 x 28" dia.
2—S.S. Tanks 42 x 22 x 48" high.
1—S.S. Tank 35½ x 30".
1—H-W 3-Truck Yarn Conditioner. yr 1950.
2—S.S. Tanks 20" dia x 24.
1—Foster Mdl 102 Wood Tube Winder. 100 x 7" Traverse. yr 1947.
1—Whitin Novelty Twister 200 spdl x 3" Ring x 8" Tr. (8 oz. pkg.)
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2—Sargent Mod. 20, 36" Ceiling Condensers, 1948
1—Abbott 40 sp. aut. Quiller, 1952
1—Gessner Mod. 20 Hi Speed Press 1949
1—P. & W. 84" x 36" Cloth Steamer, 1950
1—P. & W. 72" x 36" Semi-Decater, 1948
1—P. & W. 74" Cloth Rolling Mach., 1952
2—Gessner 72", 18 roll, D. A. Nappers, 1942
1—Gessner 66" Hydrolizer complete, 1942
2—Hunter S.S., 8 piece Dye Kettles, 1950
2—Whitin, 4½" Ring Twisters, Mod. R, 1951
2—W. S. Pin Drafters, can del'vy, 1952
1—Schofield 72" Carding Picker, 1950

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4—SAUPE H. S. TRICOT MACHINES, 28 Gauge, 84" width, 3 bar. This equipment located Crossville, Tennessee.

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12—C&K W2 LOOMS, 92", motorized
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1—Gessner D.A. NAPPER, 18 Roll, 72"
1—Woonsocket, D.A. NAPPER, 24 Roll, 86"
1—P&W D.A. NAPPER, 24 Roll, 80", motorized
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3—SHEARS, C&M., Jahr, K&B., 48", 90"
1—SINGING Machine, C&M., 3 Burner, 84"
1—Gessner, 2 Roll, SQUEEZE SET, 72" x 13" dia. Rolls
1—G&Y Jack Spool STRIPPER, 56", motorized
1—S&F 60" Garnett SHREDDER, Hopper Feed, Magnetic Separator
3—Scott TESTERS, Yarn and Cloth, Models HD2-X5-K
3—Foster TUBE WINDERS, Models 101, 102
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2 Parks & Woolson, 6 blade 66½" Shears, with list saving motion, folder, motors.
1 Arlington, 4 bowl crab w/4 pair Rubber squeeze rolls, 66" 13", 10 HP Gearhead motor, exhaust fan and motor, tag. temp. controls.
1 James Hunter, 2 bowl crab w/2 pair rubber squeeze rolls, 72" x 12", pneumatic pressure, stainless steel rolls, Reeves Drive, 5 HP motor.
(Will sel either as a crab or individual sets of squeeze rolls)
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5 60" Peraltas (Duesberg Bosson)
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150M—F15 Drawtex Hed. on Frms.
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X 1M—Hedd. Frms 80" with Hedd.
X 250M—A. L. Bobbins, 8-¾"
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Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. This unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a valuable source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest paid circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service in which you are currently interested. Then consult in the index the page numbers that are followed by that letter.

A. Air Conditioning, Air Cleaning.
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply.
C. Chemicals and Dyestuffs.
D. Cleaning Equipment.
E. Dyeing, Finishing, and Cloth Room Equipment and Supplies.
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies.
H. Fluid Handling—Compressors, Pumps, Piping, Valves, Fittings.
K. Instruments: Measuring, Metering, and Weighing Apparatus.
L. Knitting-Mill Equipment and Supplies.
M. Lubricants and Lubrication Equipment.
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials and Components for Machinery and Equipment.
P. Materials Handling, Packaging, and Shipping Facilities.
Q. Power Generation and Transmission (see also Electrical Equipment).
R. Weaving and Warp Preparation Equipment and Supplies.
T. Yarn-Production, Twisting and Winding Equipment and Supplies.

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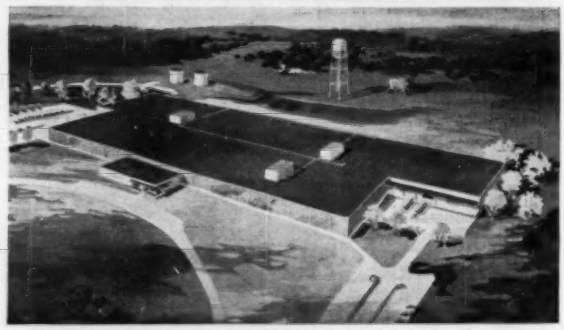

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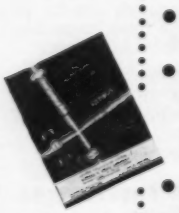

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Celanese Corp. of America		
Chemical Div.	161	C
Yarn Div.	34	G
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Graton & Knight Co.	222	R
Gulf Oil Corp.	26	M
Harshaw Chemical Co.	223	C
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Lazenby Co., The F. A.	236	T
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Loper Co., Ralph E.	252	N
Main, Inc., Chas. T.	248	N
Manhattan Rubber Div.	48	Q
Metallizing Engineering Co., Inc.	253	O Q
Micro Switch Div.	62	F
Minneapolis-Honeywell Reg. Co. Industrial Div.	164	K
Micro Switch Div.	62	F
Monsanto Chemical Co., Plastic Div.	215	C
Montgomery Co., The	248	G
Mortell Co., J. W.	250	B
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Mount Hope Machinery Co.	159	E
National Aniline Div., Allied Chem. & Dye Corp. Chemical Div.	39	C
Fiber Div.	46–47	G
New Departure Div. of General Motors Corp.	15	O Q
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Noone Industrial Fabrics Div. F. C. Huyck & Sons	246	E
Nopco Chemical Co.	20	C
Norgren Co., C. A.	213	M
Oakite Products, Inc.	253	C
Ordnance Gauge Co.	204	L
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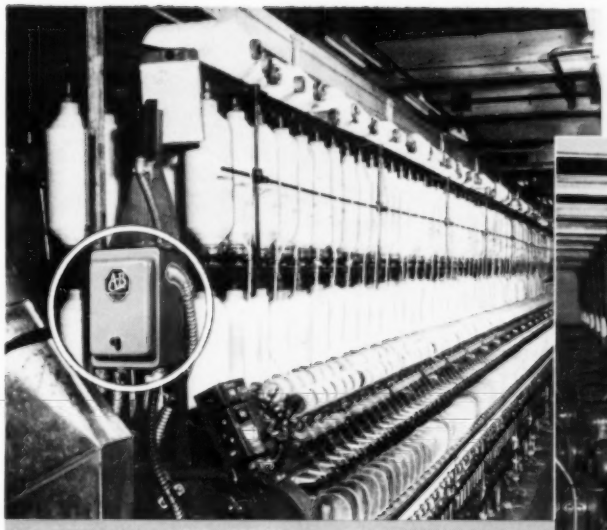
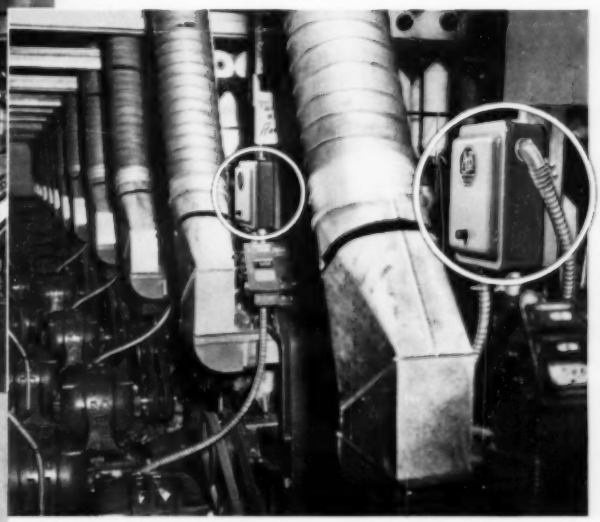




TWO POPULAR TEXTILE MOTOR STARTERS

Left—Bulletin 709 solenoid starter with quick-acting magnetic plunger—ONLY ONE MOVING PART—that opens and closes the double break, silver alloy contacts.

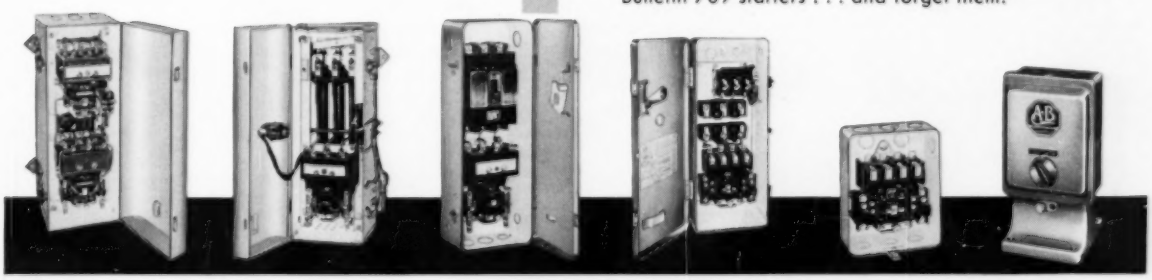
Right—Bulletin 1209 manual loom starter with lint-proof enclosure. The hand-operated knob opens and closes the switch with quick-break, quick-make snap action.

Spinning Frames at Adelaide Mills use Allen-Bradley Automatic Starters

The long lines of spinning frames in the Adelaide Mills are equipped with Allen-Bradley Bulletin 709 automatic solenoid starters. Two relays in each starter provide continuously dependable protection against motor burn-outs, due to overloads.

The operator, also, is fully protected against accidental restarting of the spinning frame, when service is restored after a line failure. He MUST push the START button to start the spinning frame.

Allen-Bradley automatic starters protect man, motor, and machine—a safety feature that should not be ignored. And there is no contact maintenance. Just install Bulletin 709 starters . . . and forget them.



Bulletin 740 automatic velvet smooth motor starter.

Bulletin 640 manual stepless resistance motor starter.

Bulletin 713 combination starter with circuit breaker.

Bulletin 712 combination starter with fused, visible contact, disconnect switch.

Bulletin 709 Size 1 automatic across-the-line motor starter.

Bulletin 1209 Manual Loom Motor Starter—Pedestal Mounting.

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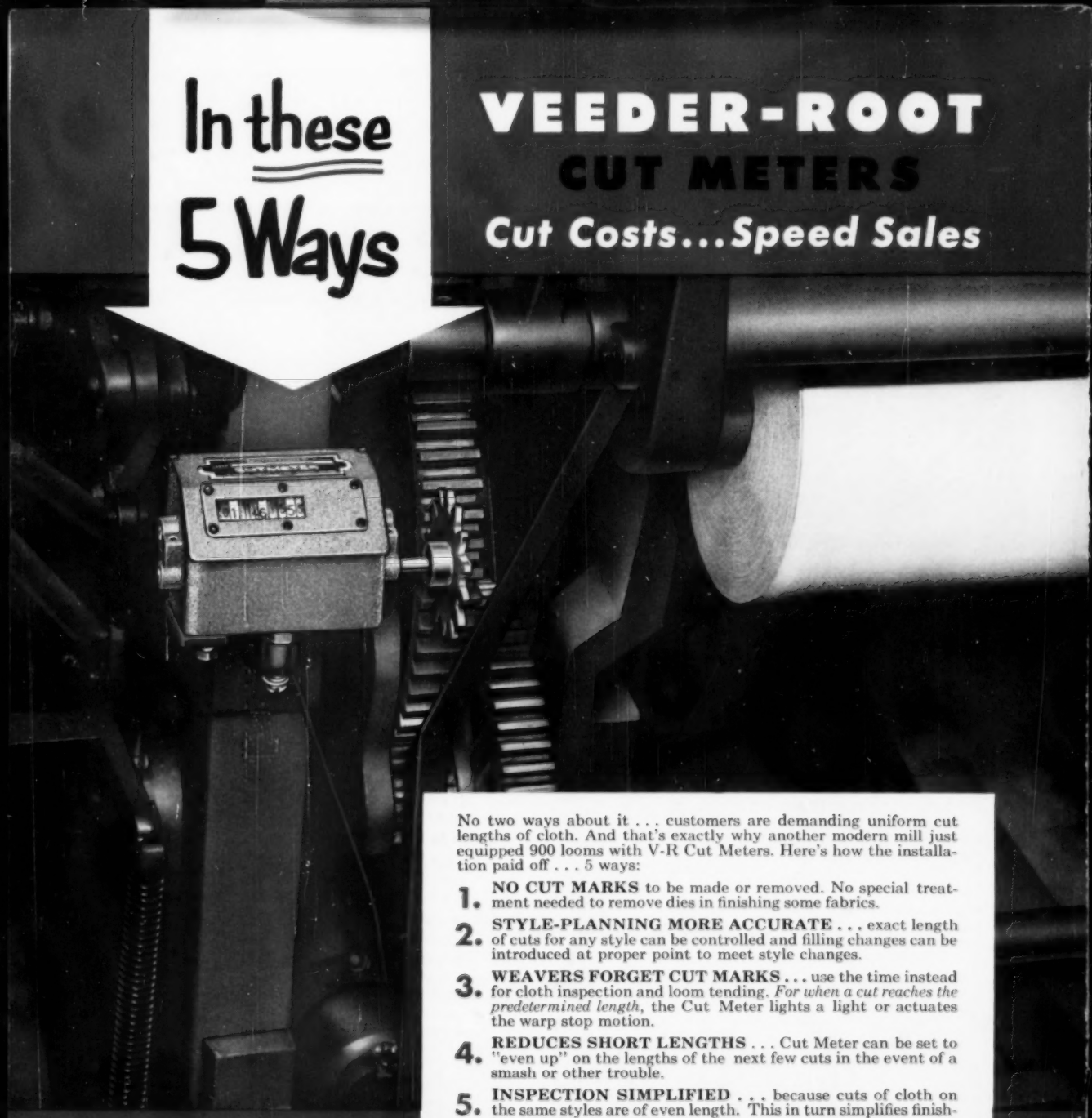
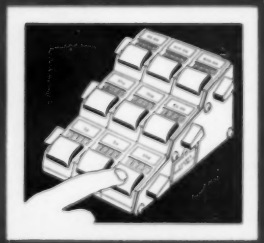


No two ways about it . . . customers are demanding uniform cut lengths of cloth. And that's exactly why another modern mill just equipped 900 looms with V-R Cut Meters. Here's how the installation paid off . . . 5 ways:

1. **NO CUT MARKS** to be made or removed. No special treatment needed to remove dies in finishing some fabrics.
2. **STYLE-PLANNING MORE ACCURATE . . .** exact length of cuts for any style can be controlled and filling changes can be introduced at proper point to meet style changes.
3. **WEAVERS FORGET CUT MARKS . . .** use the time instead for cloth inspection and loom tending. *For when a cut reaches the predetermined length,* the Cut Meter lights a light or actuates the warp stop motion.
4. **REDUCES SHORT LENGTHS** . . . Cut Meter can be set to "even up" on the lengths of the next few cuts in the event of a smash or other trouble.
5. **INSPECTION SIMPLIFIED . . .** because cuts of cloth on the same styles are of even length. This in turn simplifies finishing and shipping problems.

Customers can be *sure* they'll get uniform cut lengths from mills equipped with Veeder-Root Cut Meters. And that's why more and more mills are giving their customers this assurance which speeds sales. How about *your* mill? Just get in touch with the nearest Veeder-Root office.



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